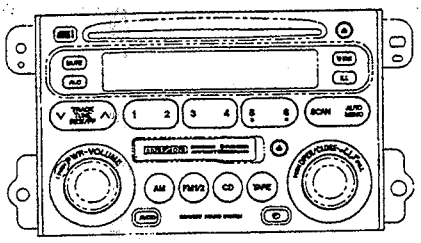
PIONEER
*The Art of Entertainment*

# Service Manual



ORDER NO.
**CRT1604**

The chapter 1 of this Service Manual will not be reprinted. On your additional orders, we may supply only the chapter 2. For the chapter 1, please make copies and attach to the chapter 2 at your side if necessary.

TUNER CD DECK AMPLIFIER

# FH-P5046ZM UC
# FH-P5046ZM-91 UC

COMPACT disc DIGITAL AUDIO

**NOTE:**

- **These models have been installed in MAZDA MIATA MX5.**
  **MAZDA No. : NB11 66 9C0**
- **These models will not operate a market supplied multi CD player when connected.**
- **Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.**
- **See the service manual CX-540 (CRT1574) for the CD mechanism description, disassembly and circuit description.**
- **See the separate manual CX-529 (CRT1507) for the cassette mechanism description.**
- **The CD mechanism employed in this model is one of CX-540 mechanism series.**
- **The cassette mechanism employed in this model is one of 1L mechanism series.**

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K-FFD. AUG. 1994 Printed in Japan

# CHAPTER 1

## ● CD Player Service Precautions

1. For PU unit(CGY1032) handling, please refer to"Disassembly" (CX-540 Service Manual CRT1574).During replacement, handling precautions shall be taken to prevent an electro-static discharge(protection by a short pin).
2. During disassembly, be sure to turn the power off since an internal IC might be destroyed when a connector is plugged or unplugged.

## ● Supplementary model is identical to the original model except for the addition of following items.

| Description | Part No. |
|---|---|
| Cover | CEG1119 |
| Carton | CHG2519 |
| Contain Box | CHL2519 |
| Protector | CHP1675 |
| Protector | CHP1676 |
| Installation Manual | CRB1336 |

# 1. SYSTEM BLOCK DIAGRAM

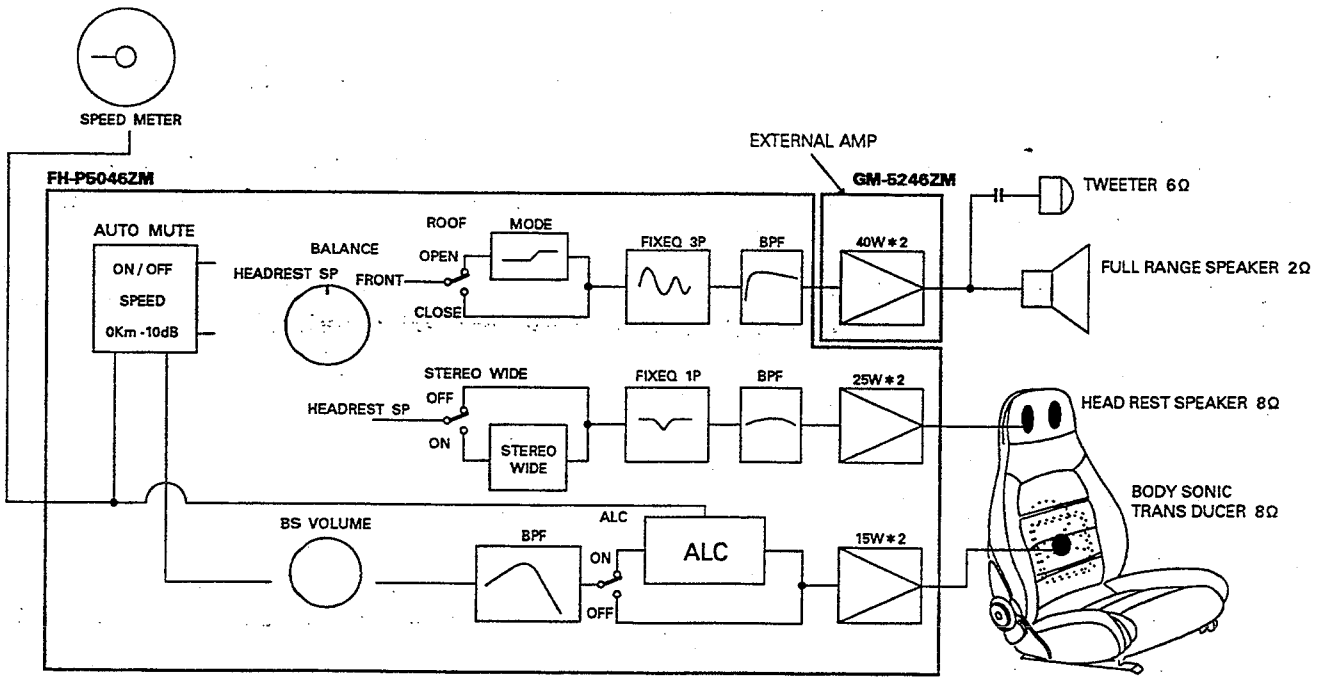



Fig.1

# 2. DISASSEMBLY

### ● Removing the Brackets

1.Remove the eight screws, and then remove the two brackets.

### ● Removing the Case

1.Insert and turn a flat screwdriver at locations indicated by arrows to remove the case.

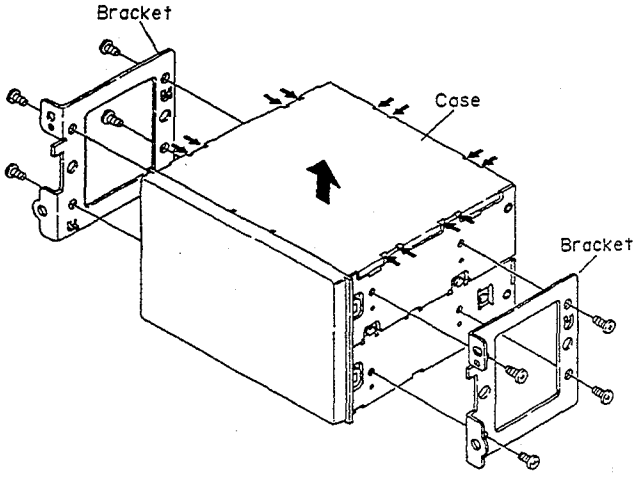



Fig.2

### ● Removing the Grille Assy

1.Disconnect the four stoppers indicated by arrows, and then remove the grille assy.

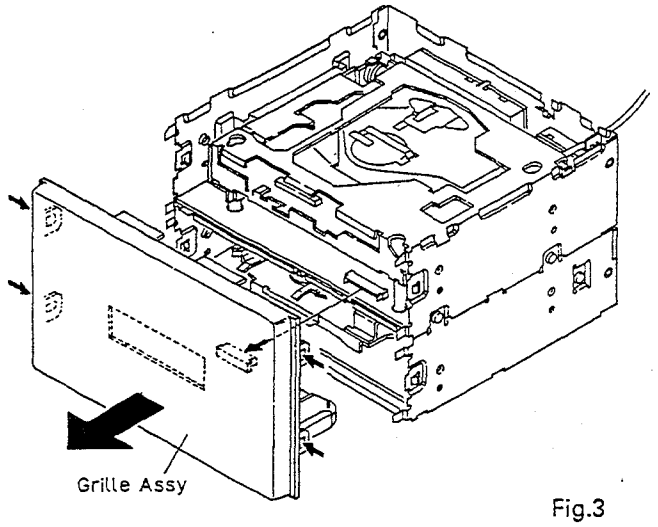



Fig.3

### ● Removing the Control Section

1.Remove the four screws, and then remove the control section.

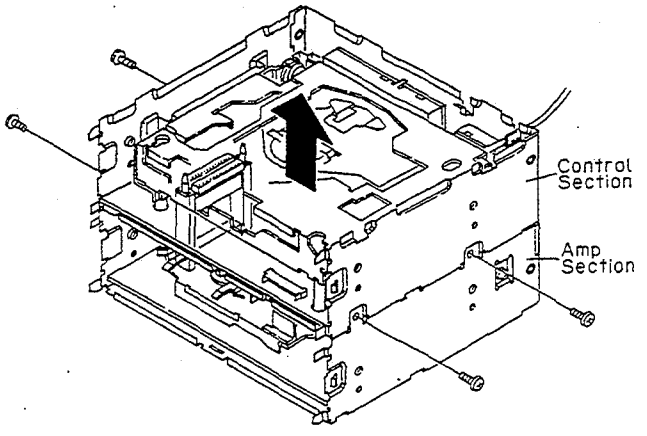



Fig.4

### ● Removing the CD Mechanism Module

1.Remove the four screws .
2.Disconnect the connector.
3.Remove the CD Mechanism Module.

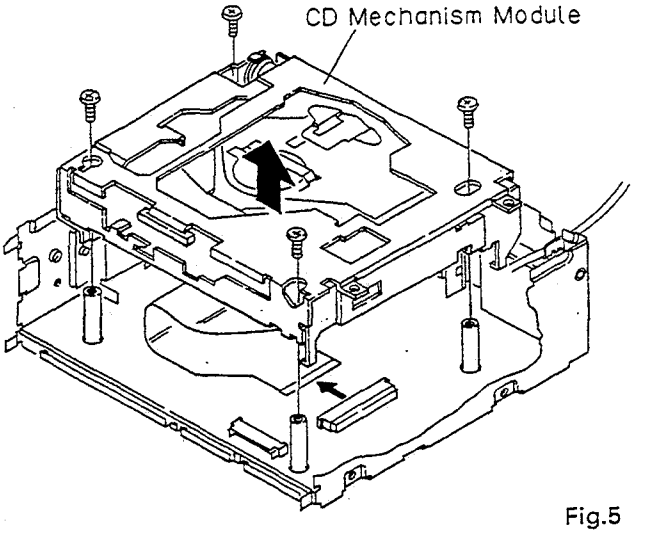



Fig.5

## ● Removing the Control Unit

1.Remove the five screws.
2.Stretch the five claws.
3.Remove the control unit.

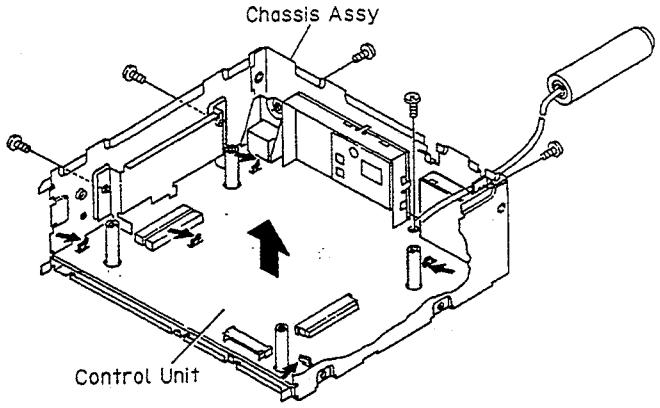



Fig.6

## ● Removing the Amp Unit

1.Remove the two screws A and two screws B.
2.Remove the heat sink.
3.Remove the four screws C.
4.Stretch the four claws,and then remove the amp unit.

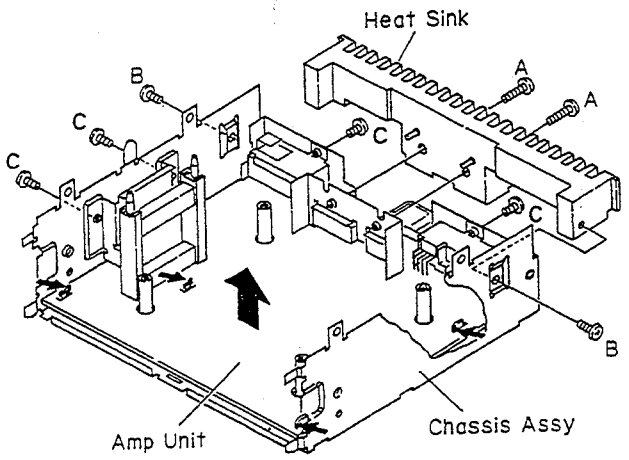



Fig.8

## ● Removing the Cassette Mechanism Module

1.Remove the four screws .
2.Disconnect the connector.
3.Remove the cassette mechanism module.

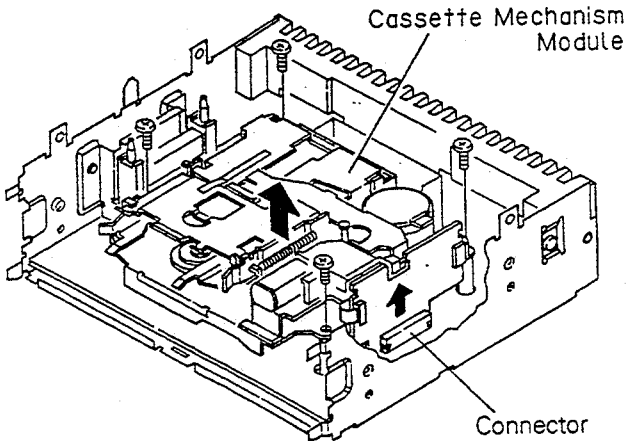



Fig.7

# 3. GENERAL GUIDE

## 3.1 ANTI-THEFT

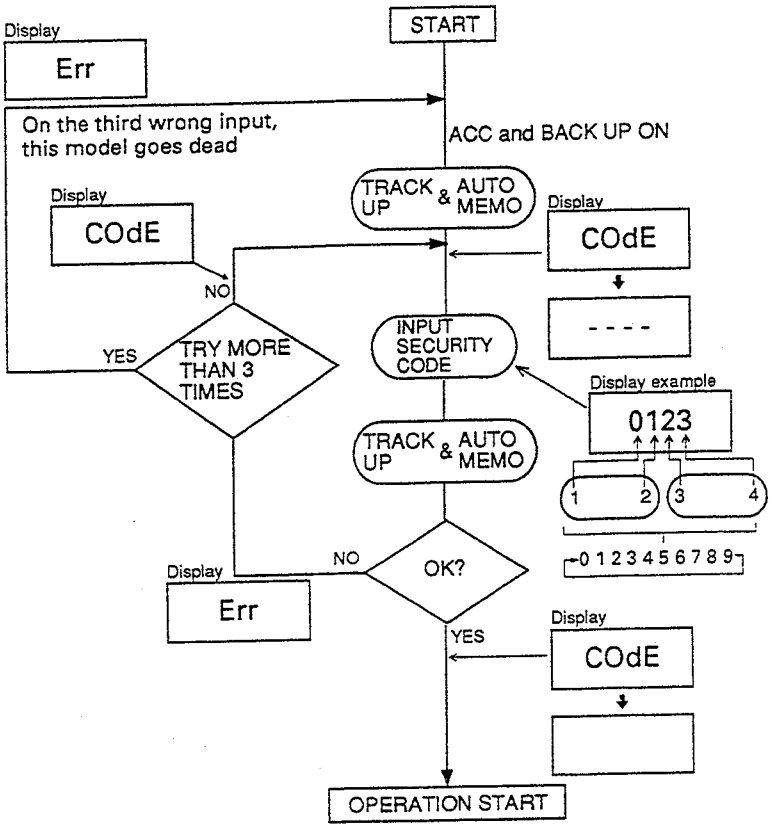



Fig.9

## 3.2 TUNER

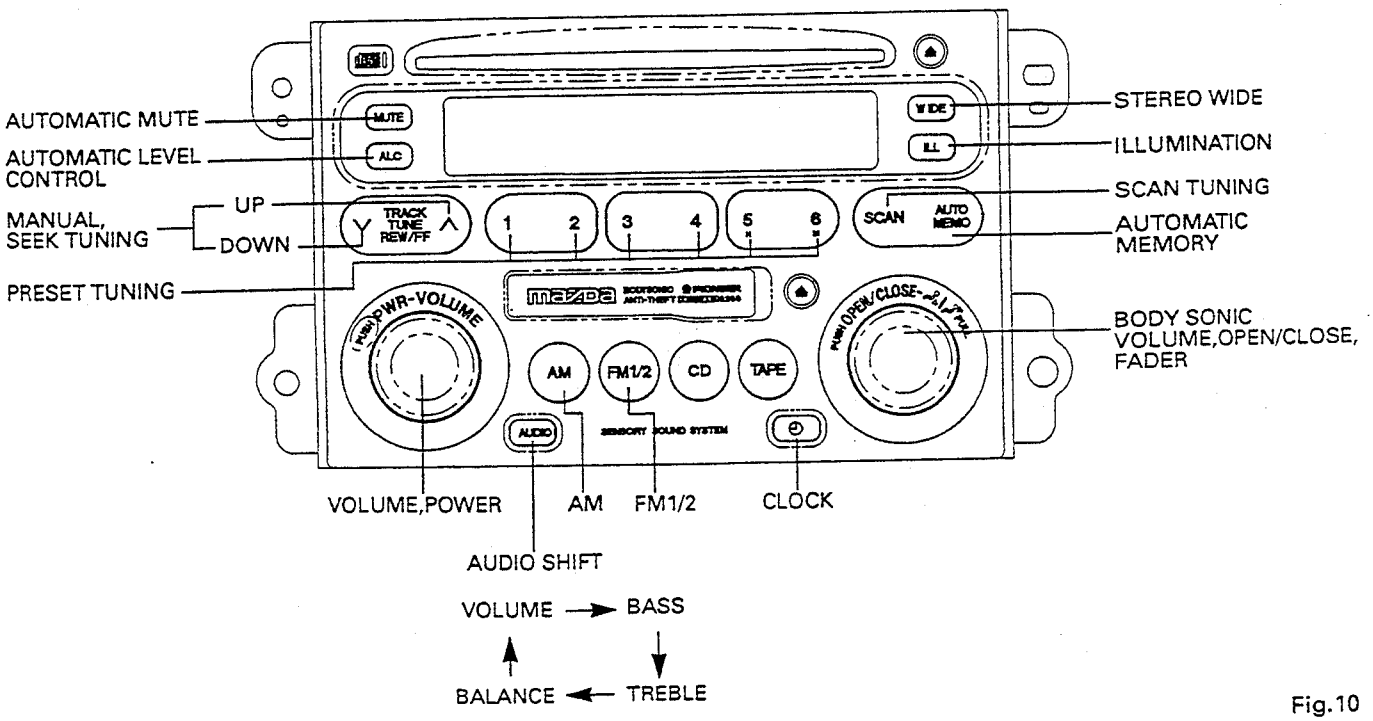



Fig.10

## 3.3 TAPE

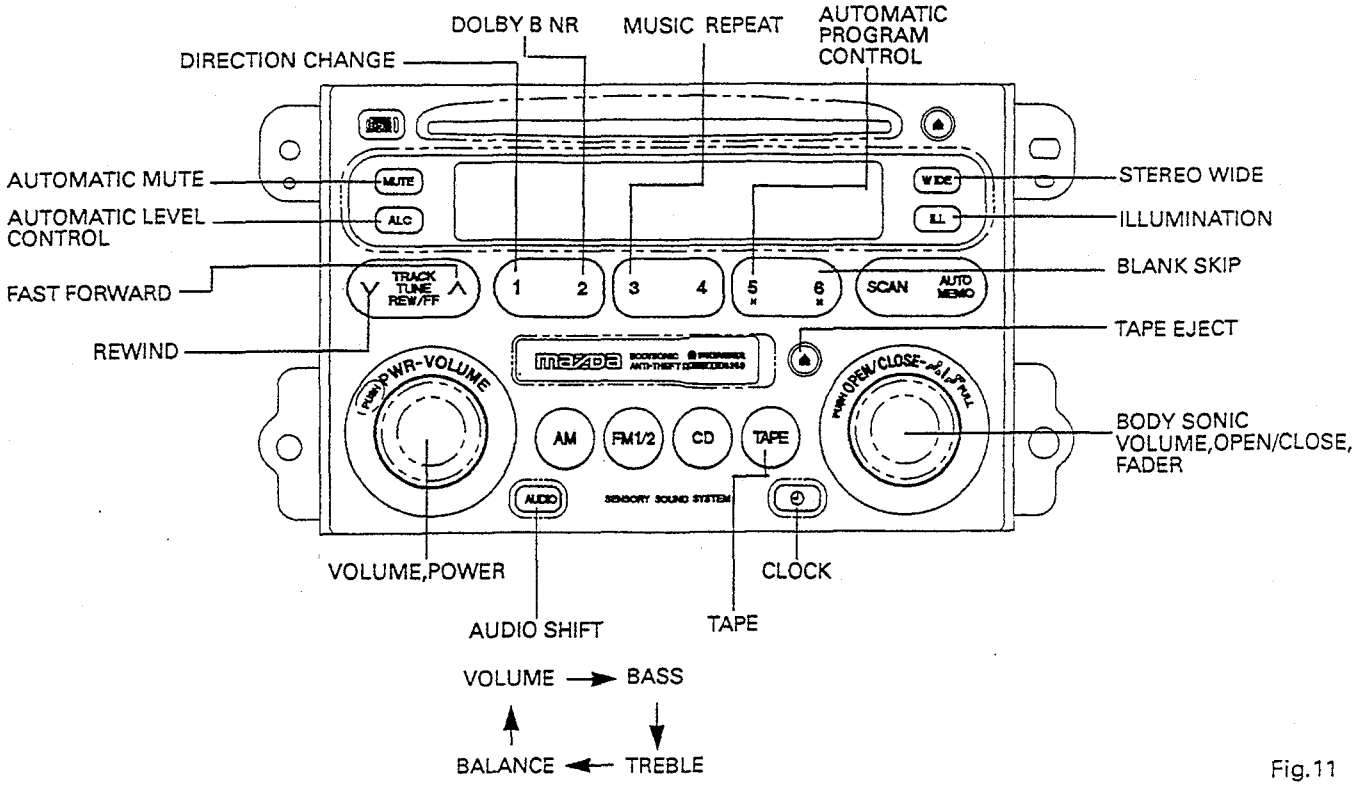



Fig.11

## 3.4 CD

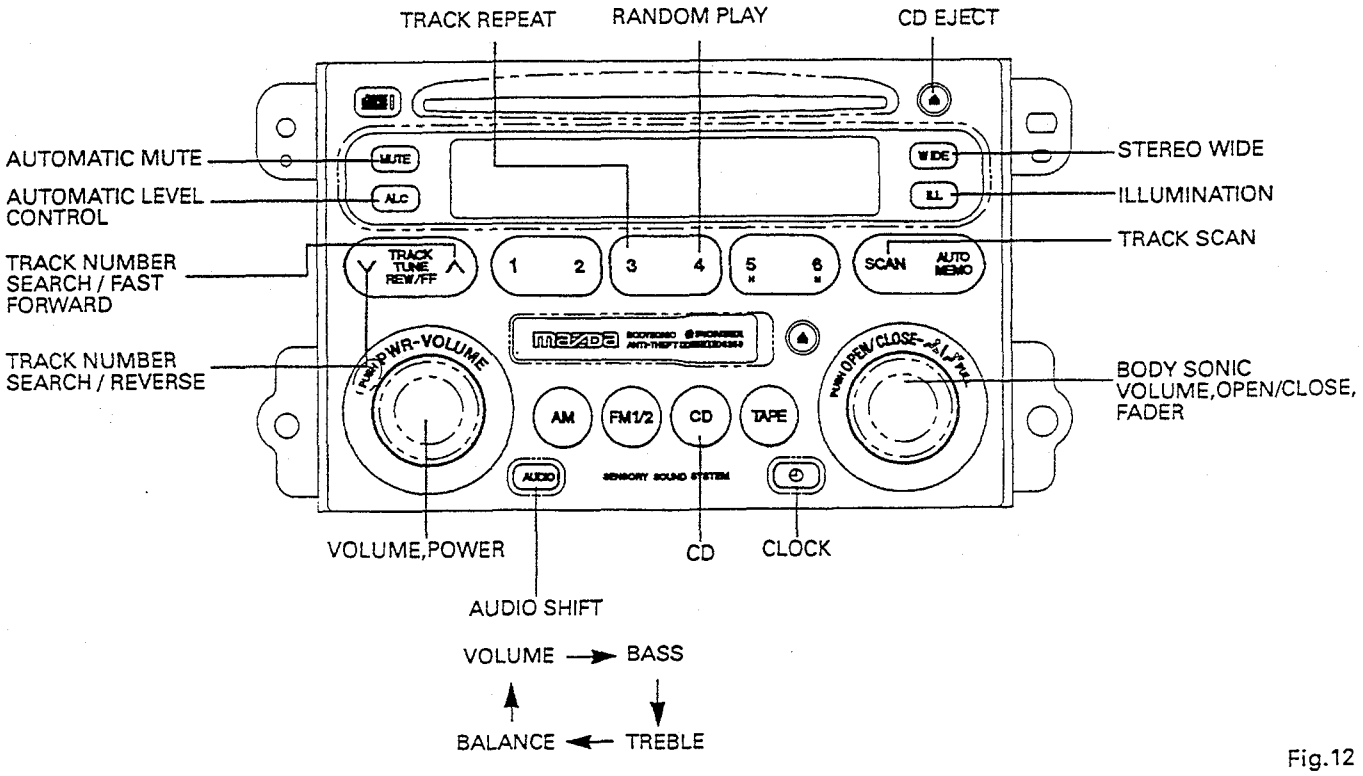



Fig.12

# 4. CONNECTOR FUNCTION DESCRIPTION

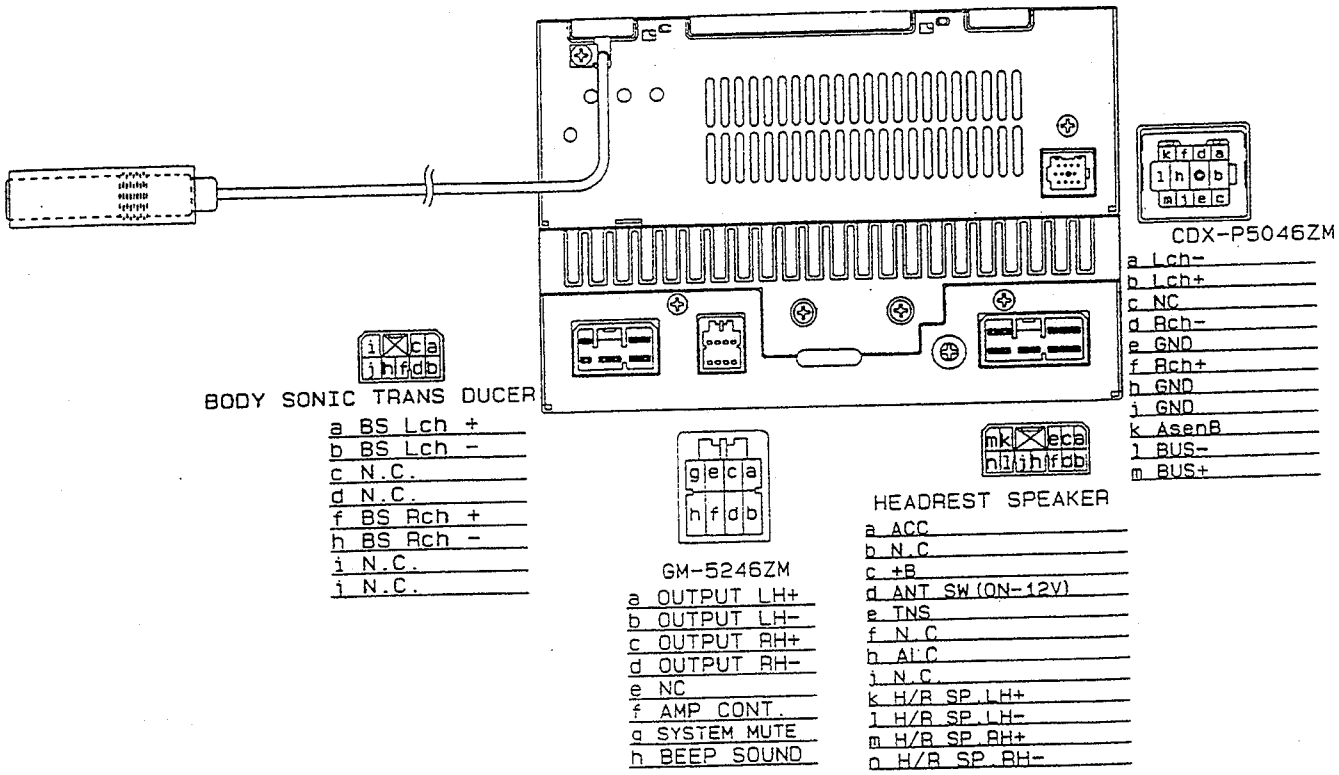



Fig.13

# 5. SPECIFICATIONS

**General**

| | |
|---|---|
| Power source | 13.2 V(10.0V—15.0V allowable) |
| Grounding system | Negative type |
| Dimensions | 180(W) × 120 (H) × 172 (D) mm |
| Weight | 3.01 kg |
| Max. power output(Headrest) | 12 W × 2 |
| (Body Sonic) | 7 W × 2 |
| Load impedance | 8Ω |
| Preout output level | +4.0 dBs ± 3dB(VOL MAX) |
| Tone controls (bass) | ±12 dB ± 3dB (127 Hz)(VOL 28) |
| (treble) | ±12 dB ± 3dB (10 kHz)(VOL 28) |
| Loudness contour | -2.0 dB ± 3 dB (100 Hz / 1 kHz) (VOL 20) |

**CD player**

| | |
|---|---|
| System | Compact disc audio system |
| Usable discs | Compact disc |
| Signal format | Sampling frequency: 44.1 kHz<br>Number of quantization bits : 16; linear |
| Frequency characteristics | -15 dB ± 3dB (17Hz/1kHz)<br>2 dB ± 3dB (20kHz/1kHz) |
| Signal-to-noise ratio | 70 dB |
| Number of channels | 2 (stereo) |

**Tape player**

| | |
|---|---|
| Tape | Compact cassette tape (C-30—C-90) |
| Tape speed | 4.76 cm/sec.(+0.14 cm/sec.,-0.05 cm/sec.) |
| Wow & flutter | 0.2 %(WRMS) |
| Fast forward/rewind time | Apporox.100 sec. for C-60 |
| Stereo separation | 45 dB |
| Signal-to-noise ratio | 45 dB |

**FM tuner**

| | |
|---|---|
| Frequency range | 87.75 — 107.9 MHz |
| Usable sensitivity | 9 dBf ± 5dB (mono, S/N: 30 dB) |
| 50 dB sensitivity | 25dBf ± 5 dB |
| Signal-to-noise ratio | 50 dB (IEC-A network) |
| Distortion | 3.0% (65 dBf, 1 kHz, stereo) |
| Frequency response | -6.5dB ± 3dB (100Hz / 400Hz)<br>-19.0dB ± 3dB (10kHz / 400Hz) |
| Stereo separation | 25 dB (65 dBf, 1 kHz) |

**AM tuner**

| | |
|---|---|
| Frequency range | 530 — 1,710 kHz |
| Usable sensitivity | 25 dBμ± 6dB (S/N: 20 dB) |
| Selectivity | 50 dB (±9 kHz) |

# 6. ADJUSTMENT

## 6.1 CD PLAYER SECTION

1)Precautions

· This unit uses a single power supply (+5V) for the regulator. The signal reference potential, therefore, is connected to REFO(approx. 2.5V) instead of GND.
If REFO and GND are connected to each other by mistake during adjustments, not only will it be impossible to measure the potential correctly, but the servo will malfunction and a severe shock will be applied to the pick-up. To avoid this, take special note of the following.
Do not connect the negative probe of the measuring equipment to REFO and GND together. It is especially important not to connect the channel 1 negative probe of the oscilloscope to REFO with the channel 2 negative probe connected to GND.
Since the frame of the measuring instrument is usually at the same potential as the negative probe, change the frame of the measuring instrument to floating status.
If by accident REFO comes in contact with GND, immediately switch the regulator or power OFF.

· Always make sure the regulator is OFF when connecting and disconnecting the various filters and wiring required for measurements.

· Before proceeding to further adjustments and measurements after switching regulator ON, let the player run for about one minute to allow the circuits to stabilize.

· Since the protective systems in the unit's software are rendered inoperative in test mode, be very careful to avoid mechanical and /or electrical shocks to the system when making adjustment.

· Test mode starting procedure
Switch ACC, back-up ON while pressing the **1** and **3** keys together.

· Test mode cancellation
Switch ACC, back-up OFF.

· Disc detection during loading and eject operations is performed by means of a photo transistor in this unit.Consequently, if the inside of the unit is exposed to a strong light source when the outer casing is removed for repairs or adjustment, the following malfunctions may occur.
*During PLAY, even if the eject button is pressed,the disc will not be ejected and the unit will remain in the PLAY mode.
*The unit will not load a disc.
When the unit malfunctions this way, either re-position the light source, move the unit or cover the photo transistor.

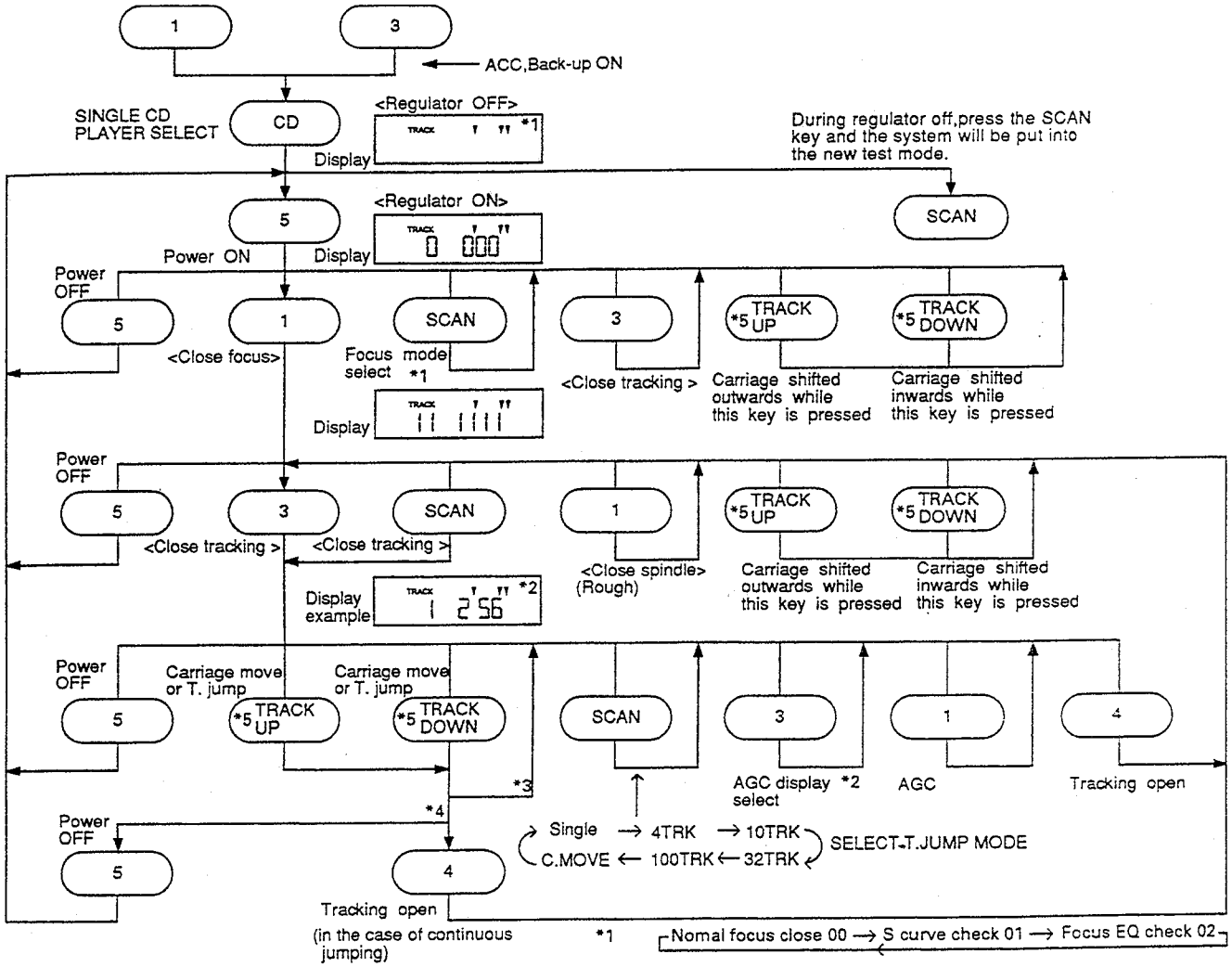
· When loading and unloading discs during adjustment procedures, always wait for the disc to be properly clamped or ejected before pressing another key. Otherwise, there is a risk of the actuator being destroyed.

· Turn power off when pressing the button **TRACK UP** or the button **TRACK DOWN** key for focus search in the test mode. (Or else lens may stick and the actuator may be damaged.)

· SINGLE/4TRK/10TRK/32TRK will continue to operate even after the key is released.Tracking is closed the moment C-MOVE is released.

· JUMP MODE resets to SINGLE as soon as power is switched off.

## ● Flow Chart




*1 Nomal focus close 00 → S curve check 01 → Focus EQ check 02

*2 Nomal display → Focus gain → Track gain

*3 100 TRK jump & carriage move continue only while the keys are pressed

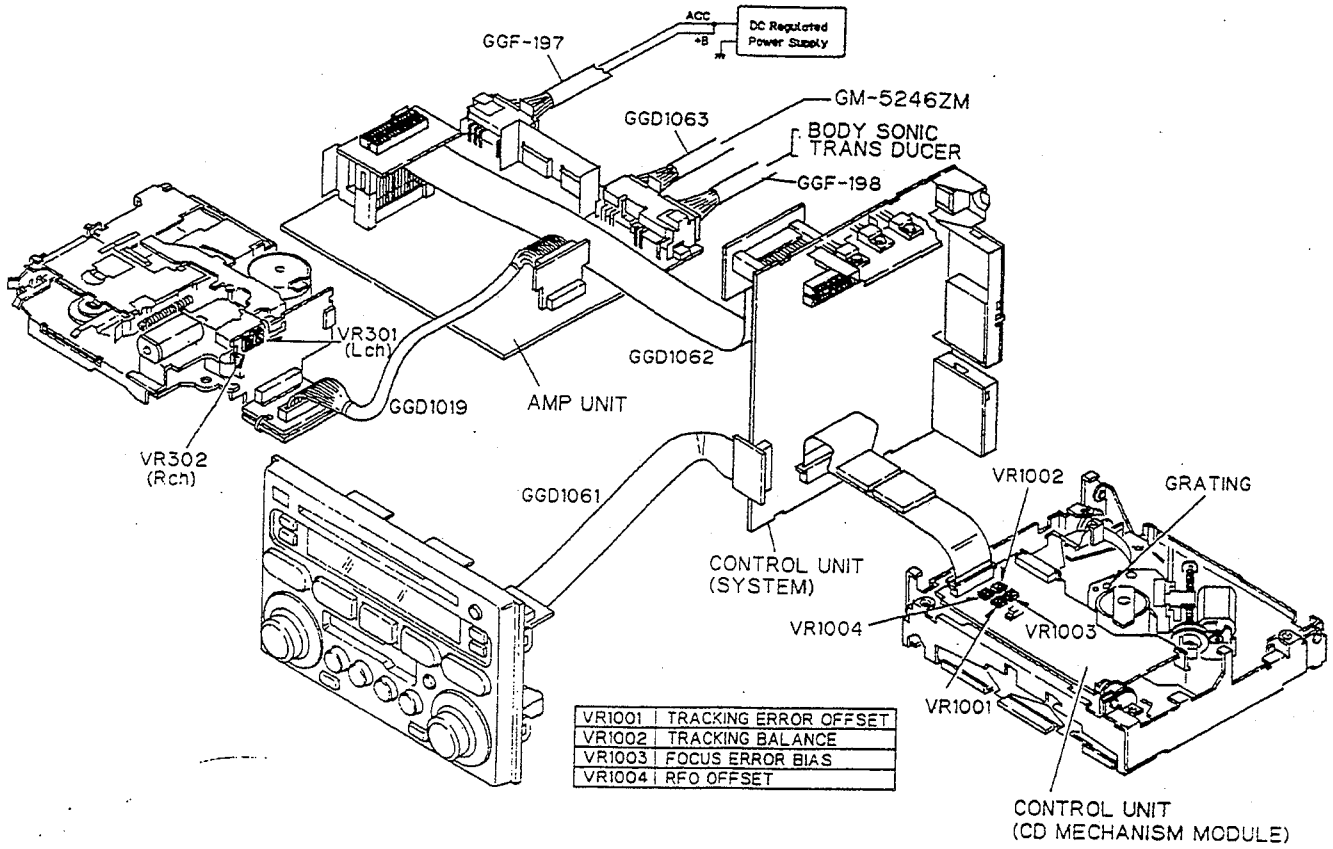
*4 SINGLE/4/10/32 → continuous even after key release

*5 Press key for more than 2 seconds

## ● Measuring Equipment and Jigs

| Adjustment | Measuring equipment & jigs |
|---|---|
| 1 Tracking Error Offset Adjustment 1 | DC V Meter, GGF-197 |
| 2 Grating Check / Adjustment 1 | Oscilloscope, ABEX TCD-784 (or SONY TYPE 4), L.P.F., Clock Driver, GGF-197 |
| 3 Grating Adjustment 2 | Oscilloscope, Grating Adjustment Filter (B.P.F.), mV Meter, ABEX TCD-784 (or SONY TYPE 4), L.P.F., Clock Driver, GGF-197 |
| 4 Tracking Balance Adjustment 1 | Oscilloscope, Low-pass Filter, ABEX TCD-784 (or SONY TYPE 4), GGF-197 |
| 5 Focus Bias Adjustment | Oscilloscope, ABEX TCD-784 (or SONY TYPE 4), GGF-197 |
| 6 RFO Offset Adjustment | Oscilloscope, ABEX TCD-784 (or SONY TYPE 4), GGF-197 |
| 7 Tracking Error Offset Adjustment 2 | DC V Meter, GGF-197 |
| 8 Tracking Balance Adjustment 2 | Oscilloscope, Low-pass Filter, ABEX TCD-784 (or SONY TYPE 4), GGF-197 |

## ● Adjustment Point




| | |
|---|---|
| VR1001 | TRACKING ERROR OFFSET |
| VR1002 | TRACKING BALANCE |
| VR1003 | FOCUS ERROR BIAS |
| VR1004 | RFO OFFSET |

Fig.14

## ● Test Point

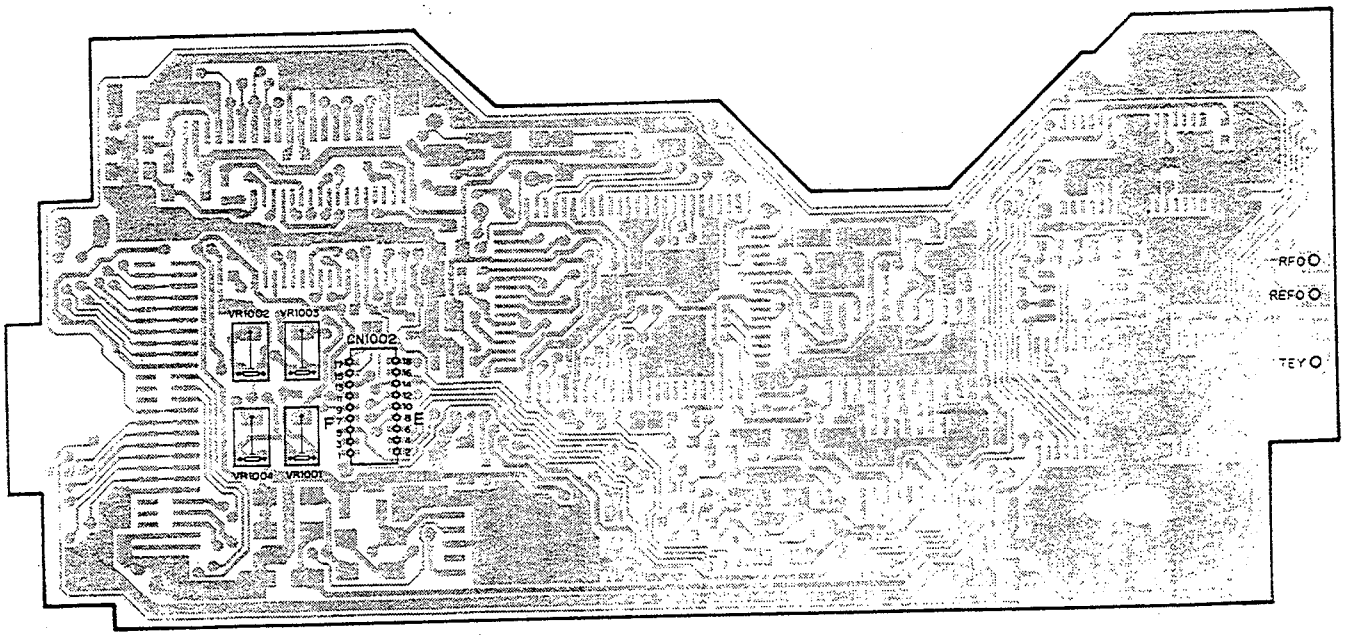
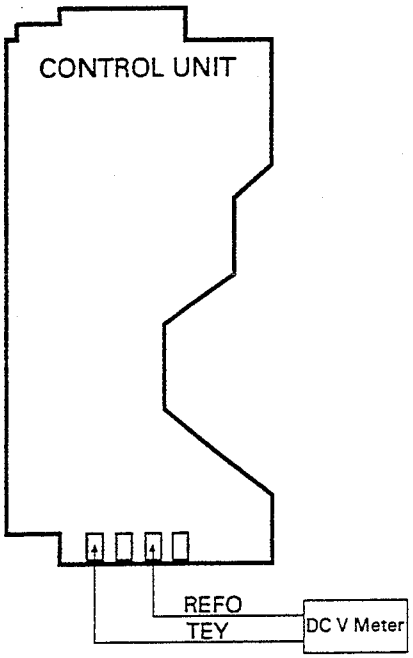



Fig.15

## 1 Tracking Error Offset Adjustment 1

- **Purpose :**
  To adjust the offset of the tracking pre-amp to zero.
- **Symptoms of Mal-adjustment :**
  Track search NG, Carriage runaway, Poor playability.

| | |
|---|---|
| **Measuring Equipment / Jig** | DC V Meter |
| **Measuring Point** | TEY |
| **Test Disc , Mode** | No disc, TEST MODE |
| **Adjustment Point** | VR1001(TE OFFSET VR) |



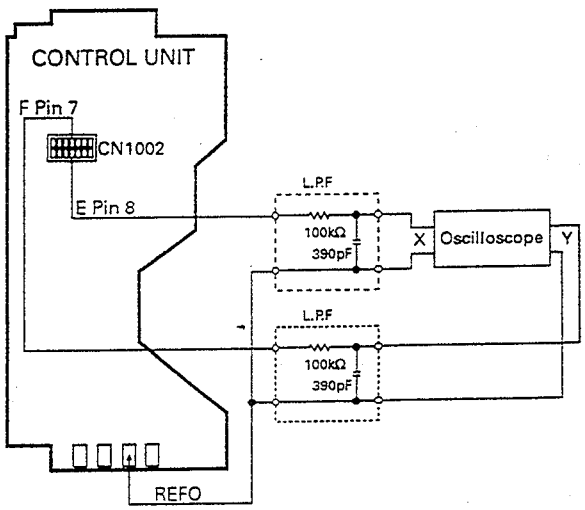

**Adjustment Procedure**

1.Switch the regulator on.
2.Using VR1001, adjust TEY to 0 ± 25mV w.r.t. REFO.

## 2 Grating Check / Adjustment 1

- **Purpose :**
  To check that the PU grating is correctly aligned after the PU unit has been replaced.
- **Symptoms of Mal-adjustment :**
  Unable to play disc, track skip during search, search NG.

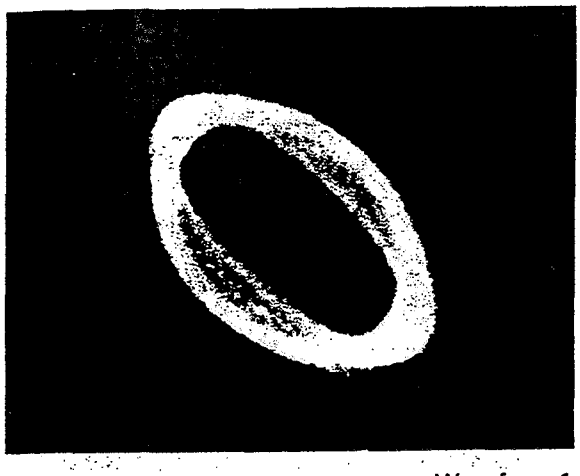
| | |
|---|---|
| **Measuring Equipment / Jig** | Oscilloscope, L.P.F., Clock Driver |
| **Measuring Point** | E, F |
| **Test Disc , Mode** | ABEX TCD-784 (or SONY TYPE 4), TEST MODE |
| **Adjustment Point** | Grating hole |




**Adjustment Procedure**

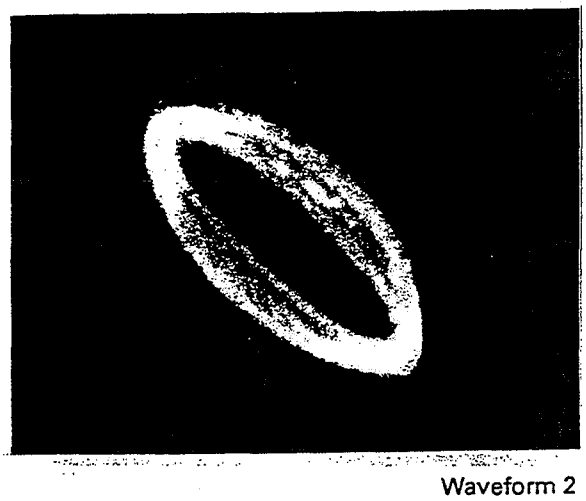
1.Load disc and switch regulator on.
2.Position the PU in the center of the disc using the **TRACK UP** & **TRACK DOWN** keys.
3.Press key **1** to close focus and once more to close spindle.
4.Refering to the photographs given check that the grating is within ±45°. If not, it should be possible to make a fine adjustment to the grating by slowly tuning the grating screw. If, however during the adjustment the lissajous figure is seen to "FLIP" then the null point must be found and the adjustment made from there(see next section).

Lissajous figure (AC input)
Horizontal axis E 10mV/div.
Vertical axis F 10mV/div.



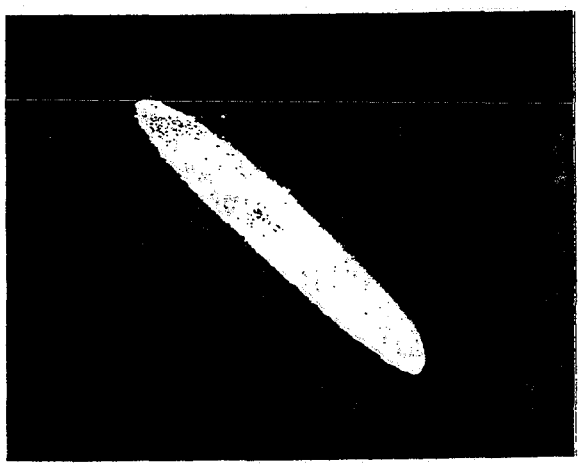
60°=NG

Waveform 1



45°=OK
(Limit)

Waveform 2



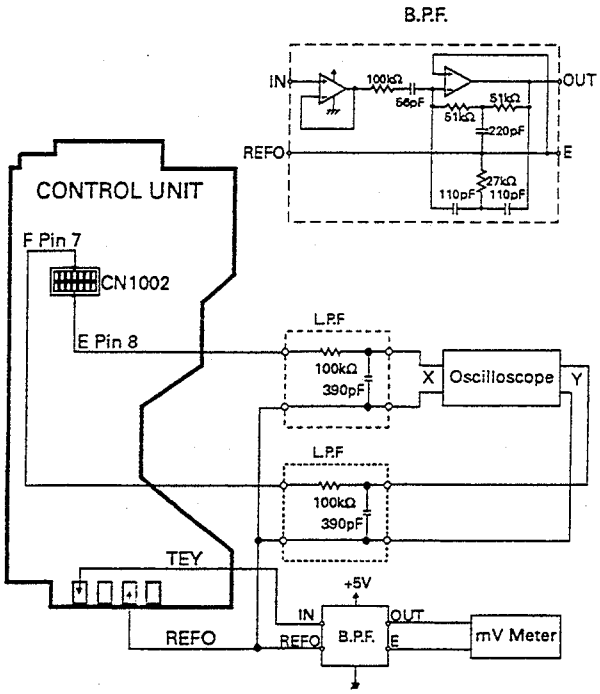
0°=BEST
(Doesn't become a single line due to eccentricity)

Waveform 3

## 3 Grating Adjustment 2

- **Purpose :**
  This needs to be done if the previous adjustment was unsuccessful.
- **Symptoms of Mal-adjustment :**
  Unable to play disc, track skipping, track search NG.

| | |
|---|---|
| **Measuring Equipment / Jig** | Oscilloscope, Grating Adjustment filter (B.P.F.), mV Meter, L.P.F., Clock Driver |
| **Measuring Point** | TEY, E, F |
| **Test Disc , Mode** | ABEX TCD-784 (or SONY TYPE 4), TEST MODE |
| **Adjustment Point** | Grating hole |

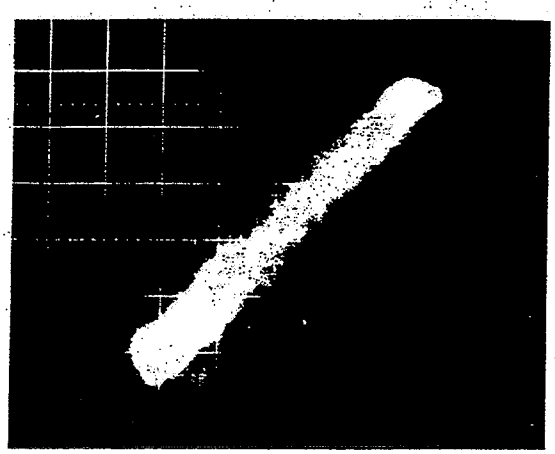



**Adjustment Procedure**

1. Load disc and switch regulator on.
2. Position the PU unit in the center of the disc using the **TRACK UP & TRACK DOWN** keys.
3. Press key **1** to close focus and press once more to close spindle.
4. While monitoring the output of the B.P.F. connected to TEY, slowly turn the grating screw. The output voltage should pass through many minimums; search for the minimum which is clearly smaller than the rest - this is the "null point", where the E & F sub-beams are lined up with the tracks on the disc.
5. From this null point, turn the grating screw clockwise (as seen from the underside of the PU unit) until the lissajous waveform is a single line (or close as possible) as shown in the photograph.

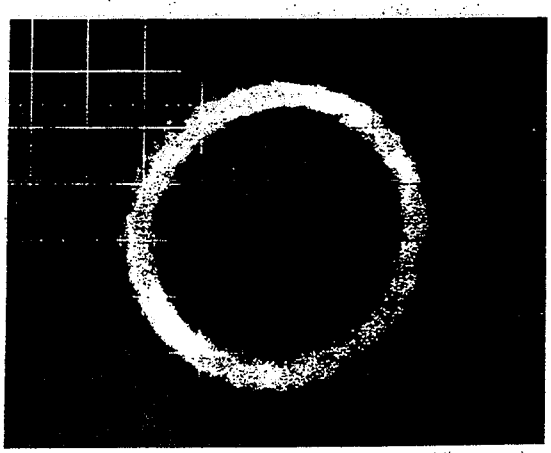
Lissajous figure (AC input)
Horizontal axis E 10mV/div.
Vertical axis F 10mV/div.

Null Point=180°



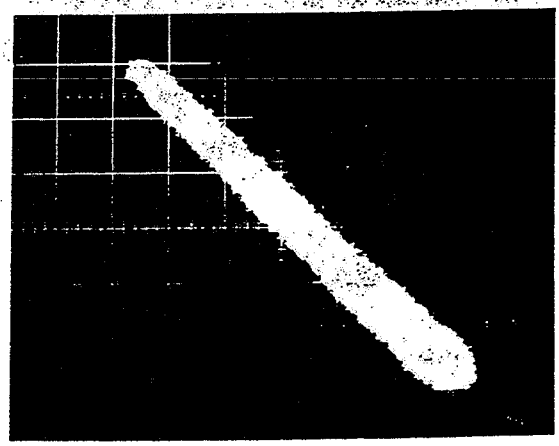
Waveform 4

"Rough" adjustment=90°



Waveform 5

Final adjustment=0°

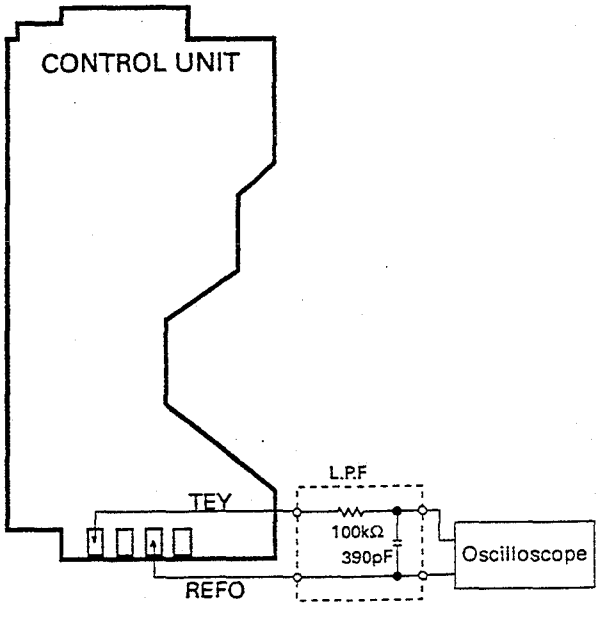


Waveform 6

## 4 Tracking Balance Adjustment 1

- **Purpose :**
  To equate the sensitivity of the F channel to that of the E channel.
- **Symptoms of Mal-adjustment :**
  Track search NG, Poor playability carriage runaway.

| | |
|---|---|
| **Measuring Equipment / Jig** | Oscilloscope, L.P.F. |
| **Measuring Point** | TEY |
| **Test Disc , Mode** | ABEX TCD-784 (or SONY TYPE 4), TEST MODE |
| **Adjustment Point** | VR1002 (T.BAL VR) |




**Adjustment Procedure**

1. Load disc and switch the regulator on.
2. Position the PU unit in the center of the disc using the **TRACK UP** & **TRACK DOWN** keys.
3. Close focus by pressing key **1**.
4. Observing the TEY waveform on the oscilloscope, adjust VR1002 until the positive and negative halves have the same amplitude (see waveform 7–9).

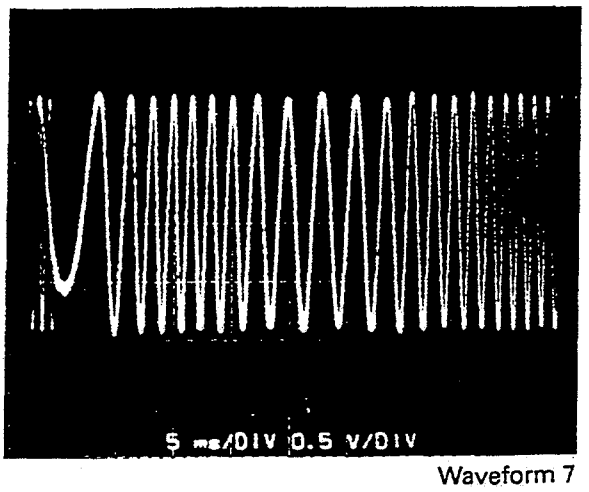
**Check**

After adjustment the TEY waveform should have an amplitude of 1.5±0.65 Vpp (ABEX TCD-784 or SONY TYPE 4) (Providing focus bias is OK)

DC Mode
0.5V/div.
5ms/div.

+5% NG

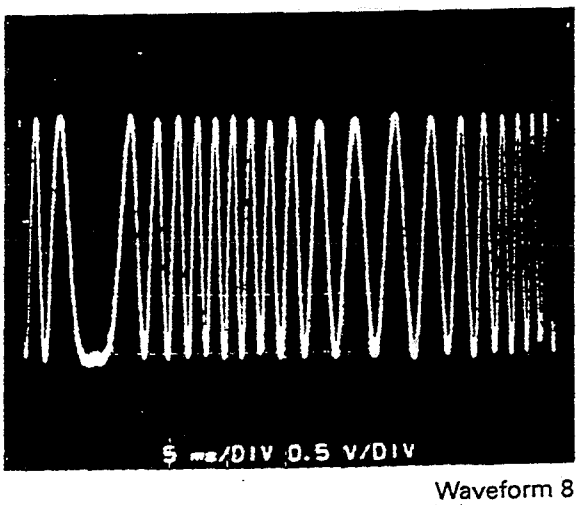
REFO →




Waveform 7

±0% OK

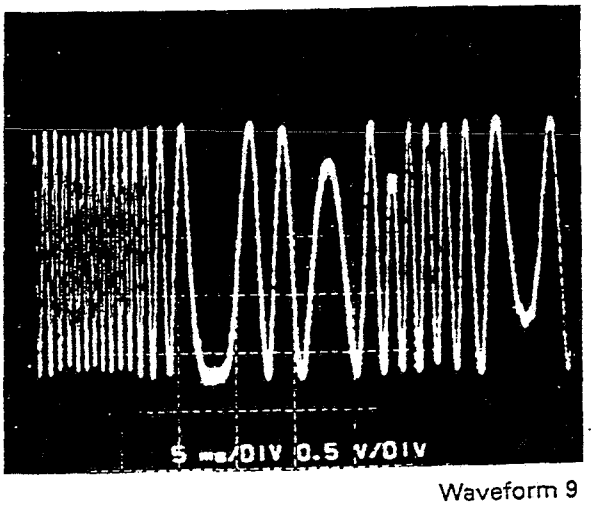
REFO →




Waveform 8

-5% NG

REFO →

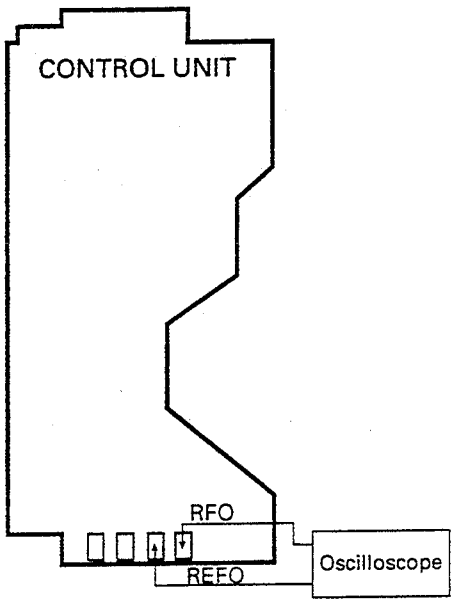



Waveform 9

## 5 Focus Bias Adjustment

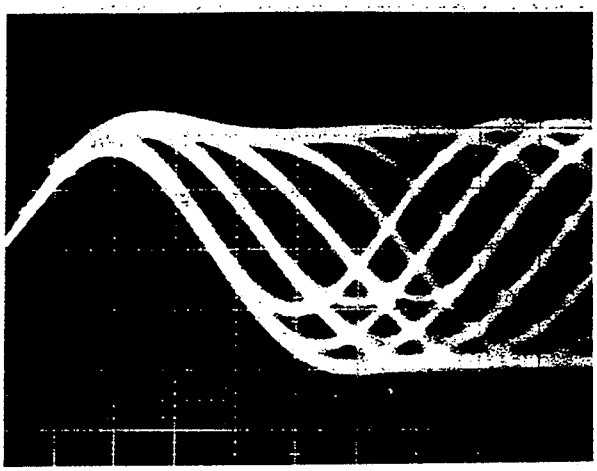
·**Purpose :**
To adjust the focus servo reference so that the RF waveform is an optimum.
·**Symptoms of Mal-adjustment :**
Difficulty in closing focus, poor playability.

| | |
|---|---|
| ·**Measuring Equipment / Jig** | ·Oscilloscope |
| ·**Measuring Point** | ·RFO |
| ·**Test Disc , Mode** | ·ABEX TCD-784 (or SONY TYPE 4), NORMAL MODE |
| ·**Adjustment Point** | ·VR1003 (FE BIAS VR) |



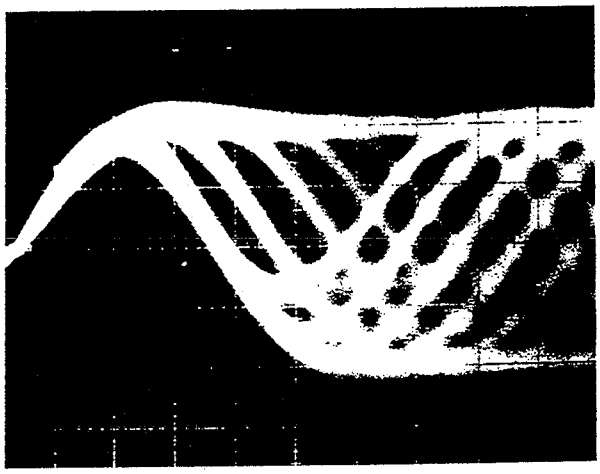

**Adjustment Procedure**
1. Play track number 18.
2. Adjust VR1003 so that the RFO waveform amplitude is a maximum and eye pattern is optimum.

**Check**
After adjustment the RFO waveform should have an amplitude of 1.7±0.65 Vpp (ABEX TCD-784 or SONY TYPE 4)



OK

Waveform 10



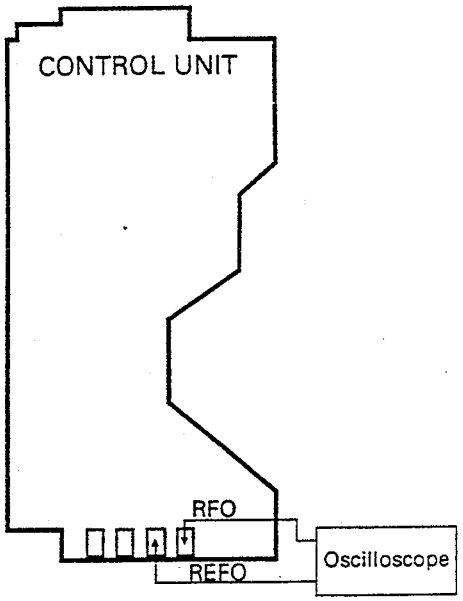
NG

AC Mode Before adjustment Waveform 11

## 6 RFO Offset Adjustment

·**Purpose :**
To adjust the RFO waveform offset to an optimum.
·**Symptoms of Mal-adjustment :**
Difficulty in closing focus, poor playability.

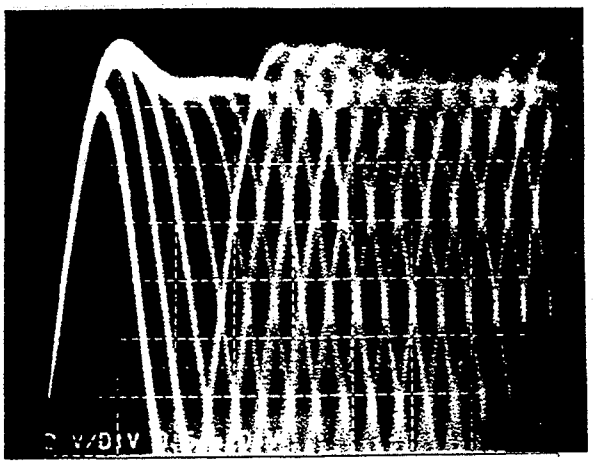
| | |
|---|---|
| ·**Measuring Equipment / Jig** | ·Oscilloscope |
| ·**Measuring Point** | ·RFO |
| ·**Test Disc , Mode** | ·ABEX TCD-784 (or SONY TYPE 4), NORMAL MODE |
| ·**Adjustment Point** | ·VR1004 (RFO OFFSET VR) |




**Adjustment Procedure**
1. Play track number 18.
2. Adjust VR1004 so that the peak value of the upper envelope of the RFO waveform is at +1.1VDC w.r.t. REFO (See waveform 12–14).

DC Mode
0.2V/div.
0.5µs/div.

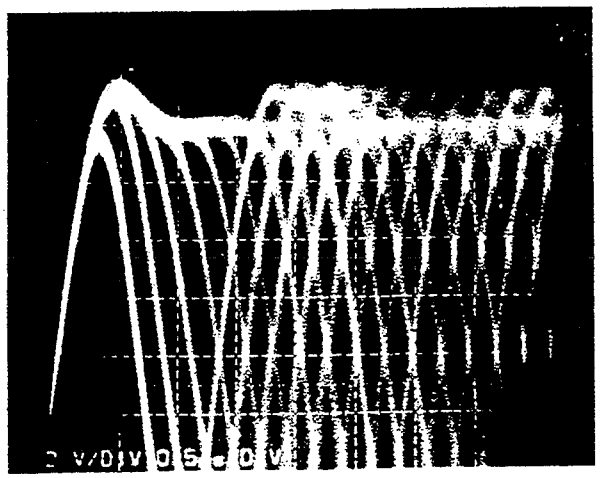
+100mV NG



REFO →

Waveform 12

OK

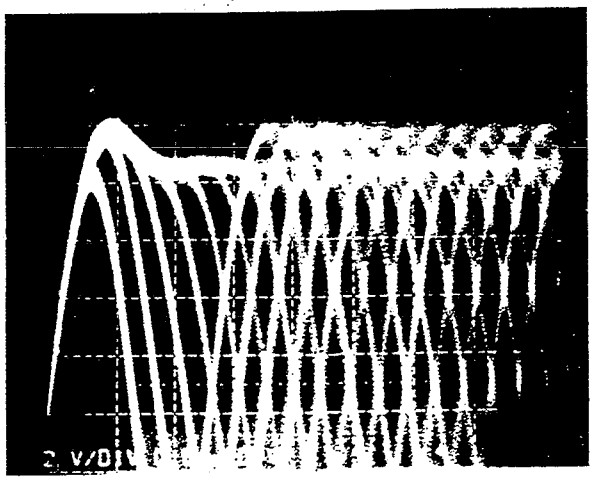


1.1V

REFO →

Waveform 13

−100mV NG



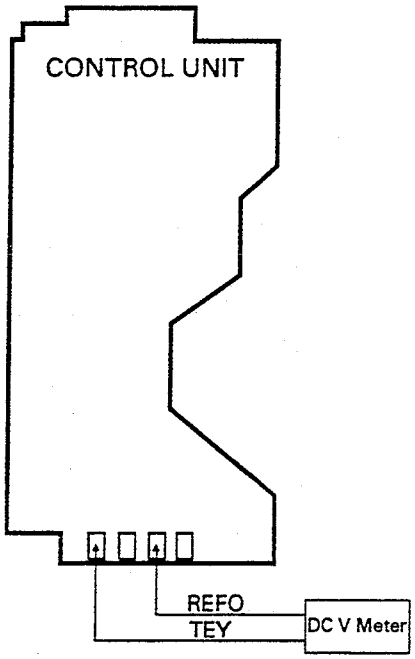
REFO →

Waveform 14

## 7 Tracking Error Offset Adjustment 2

·**Purpose :**
To check the offset of the tracking pre-amp is zero and adjust if necessary.
·**Symptoms of Mal-adjustment :**
Track search NG, Carriage runaway, Poor playability.

| | |
|---|---|
| ·**Measuring Equipment / Jig** | ·DC V Meter |
| ·**Measuring Point** | ·TEY |
| ·**Test Disc , Mode** | ·No disc, TEST MODE |
| ·**Adjustment Point** | ·VR1001(TE OFFSET VR) |

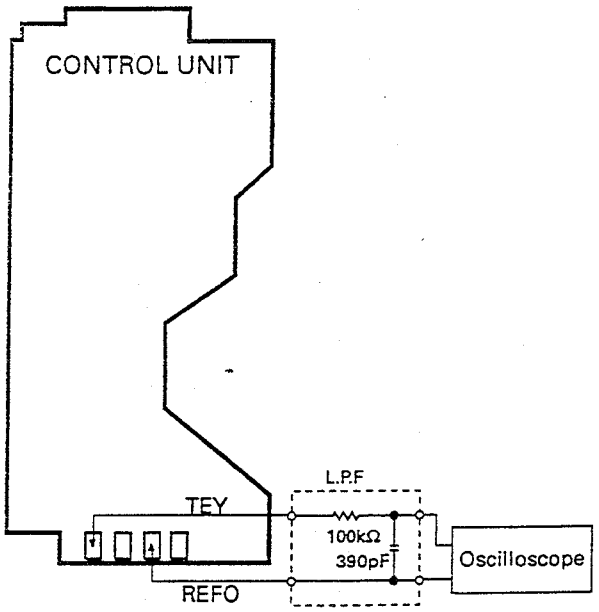



**Adjustment Procedure**
1.Switch the regulator on.
2.Using VR1001, adjust TEY to 0 ± 25mV w.r.t. REFO.

## 8 Tracking Balance Adjustment 2

·**Purpose :**
To equate the sensitivity of the F channel to that of the E channel.This needs only be done if the TE OFF-SET volume was re-adjusted in the previous step.
·**Symptoms of Mal-adjustment:**
Track search NG,Poor playability, carriage runaway.

| | |
|---|---|
| ·**Measuring Equipment / Jig** | ·Oscilloscope, L.P.F. |
| ·**Measuring Point** | ·TEY |
| ·**Test Disc , Mode** | ·ABEX TCD-784 (or SONY TYPE 4), TEST MODE |
| ·**Adjustment Point** | ·VR1002 (T.BAL VR) |




**Adjustment Procedure**
1.Load disc and switch the regulator on.
2.Position the PU unit in the center of the disc using the **TRACK UP** & **TRACK DOWN** keys.
3.Close focus by pressing key **1**.
4.Observing the TEY waveform on the oscilloscope, adjust VR1002 until the positive and negative halves have the same amplitude (See waveform 7–9).

**Check**
After adjustment the TEY waveform should have an amplitude of 1.5±0.65 Vpp (ABEX TCD-784 or SONY TYPE 4)

## 6.2 TUNER / AUDIO SECTION

### ● Connection Diagram

**NOTE:**
Select C1 so that total capacity of 80pF is attained from the direction of the receiver jack.
Z: Output impedance of SSG.

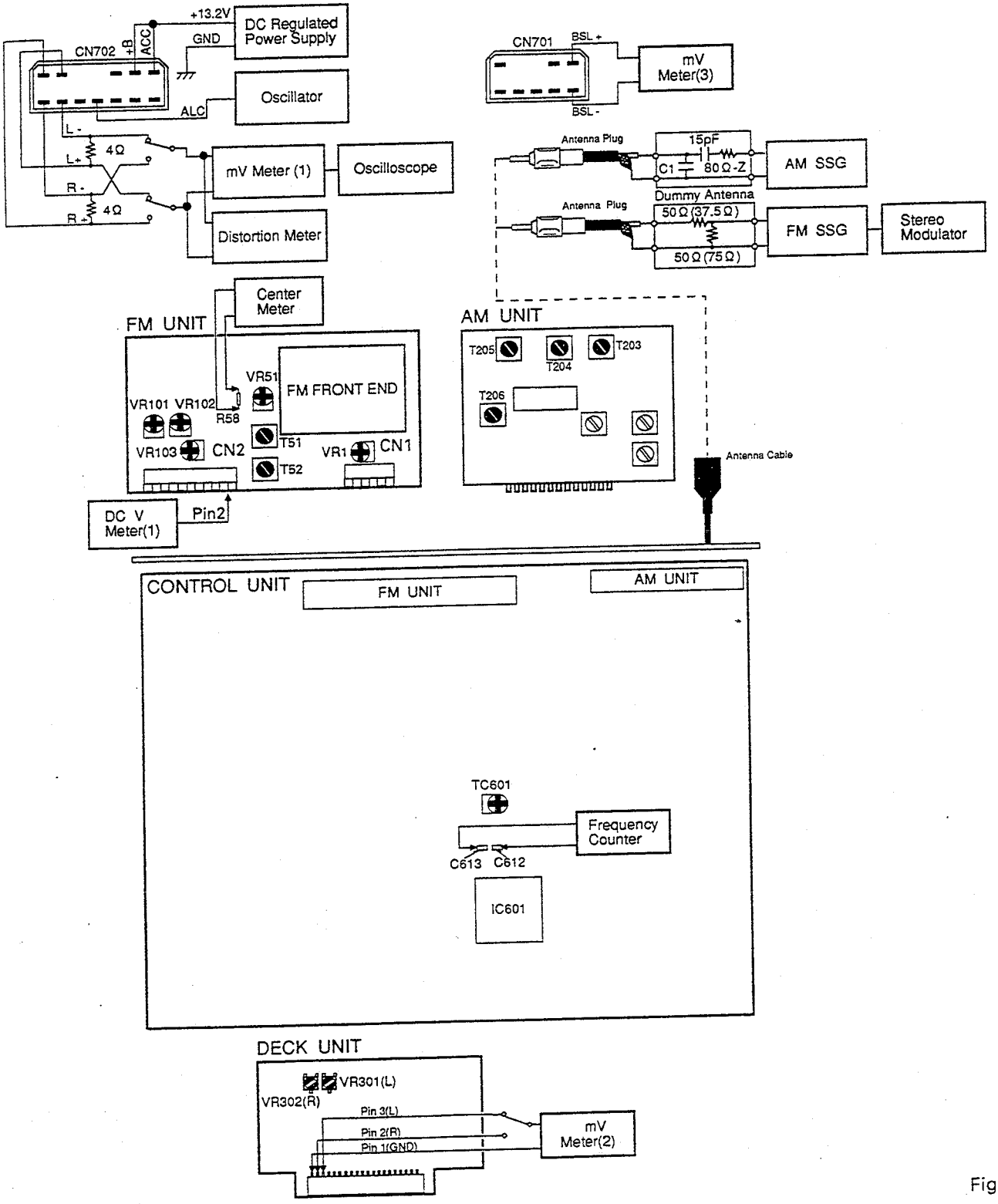



Fig.16

## AM ADJUSTMENT

| | No. | AM SSG(400Hz,30%) Frequency(kHz) | AM SSG(400Hz,30%) Level(dBf) | Displayed Frequency(kHz) | Adjustment Point | Adjustment Method (Switch Position) |
|---|---|---|---|---|---|---|
| Track-ing | 1 | 600 | 29 | 600 | T203,T204 | mV Meter(1) : Maximum |
| | 2 | 600 | 29 | 600 | T205,T206 | mV Meter(1) : Maximum |
| SEEK | 1 | 1,000 | 34±8 | 1,000 | – | Verify that SEEK stops.(DX)<br>SEEK stops level : AdB |
| | 2 | 1,000 | A+22±8 | 1,000 | – | Verify that SEEK stops.(LOC) |

## FM ADJUSTMENT

Modulation M1:MONO MOD., 400Hz 30%(22.5kHz Dev.)
M2:MONO MOD., 400Hz 100%(75kHz Dev.)
S1:STEREO MOD., 1kHz, L or R=30%(20.25kHz+7.5kHz Dev.)

| | No. | FM SSG Frequency(MHz) | FM SSG Level(dBf) | Displayed Frequency(MHz) | Adjustment Point | Adjustment Method (Switch Position) |
|---|---|---|---|---|---|---|
| IF | 1 | 98.1 M1 | 65 | 98.1 | T51 | Center Meter : 0 |
| | 2 | 98.1 M1 | 65 | 98.1 | T52 | Distortion Meter : minimum |
| | 3 | Repeat No.1–2 alternately so that the center meter indicates the 0 output and distortion meter indicates the minimum output. | | | | |
| Max. Mute | 1 | 98.1 M1 | 65 | 98.1 | – | mV Meter(1) : A |
| | 2 | 98.1 M1 | –∞ | 98.1 | VR102 | mV Meter(1) : A-20dB |
| ARC Sepa-ration | 1 | 98.1 S1 | 39 | 98.1 | VR101 | mV Meter(1) : Separation 5dB |
| | 2 | 98.1 S1 | 65 | 98.1 | VR103 | mV Meter(1) : Separation Maximum |
| | 3 | 98.1 S1 | 39 | 98.1 | VR101 | mV Meter(1) : Separation 5dB |
| SD | 1 | 98.1 M1 | 35 ± 1 | 98.1 | VR51 | DC V Meter(1) : Approx. 5V (SEEK ON) |
| LOC.H ATT. | 1 | 98.1 M1 | 23 ± 1 | 98.1 | VR1 | DC V Meter(1) : Approx. 5V (SEEK ON) |

## DOLBY NR ADJUSTMENT

| No. | Test Tape | Adjustment Point | Adjustment Method (Switch Position) |
|---|---|---|---|
| 1 | NCT-150(400Hz,200nwb/m) | VR301(Lch),VR302(Rch) | mV Meter(2) : –8.24dBs ± 1dB<br>(DOLBY NR Switch : OFF) |

## CLOCK ADJUSTMENT

| Adjustment Point | Adjustment Method |
|---|---|
| TC 601 | Frequency Counter : 1,048,585 ± 5Hz |

## ALC CHECK

| No. | Test Disc | Oscillator | ALC Switch | Check Method |
|---|---|---|---|---|
| 1 | ABEX TCD-784 (SONY TYPE 4) 100Hz | Square Wave 28Hz 10Vp-p | OFF | mV Meter(3) : A dB |
| 2 | | | ON | mV Meter(3) : B dB<br>A dB < B dB |

# 7. ERROR NUMBERS AND NEW TEST MODE

## ● Error Number Indication

If the CD should fail to operate or if an error has taken place during operation the player will enter into the error mode, and the cause of the error will be numerically indicated.

This is aimed at assisting in analysis or repair.

### (1) Basic Means of Display

·With ERROR indicated in "MODE" on IP-BUS Display data, an error code is transmitted by the use of MIN and SEC. The MIN and SEC data will be identical.

·Examples of Display Er XX

### (2) Error Codes

| Error Code | Classification | Description | Cause/Detail |
|---|---|---|---|
| 10 | ELECTRIC | Carriage home failure | Carriage doesn't move to or from the innermost position<br>→Home switch failed and/or carriage immobile |
| 11 | ELECTRIC | Focus failure | Focus failed<br>→Defects, disc upside-down, severe vibration |
| 12 | ELECTRIC | SETUP failure<br>Subcode failure | Spindle failed to lock or subcode unreadable<br>→Spindle defective, defect, severe vibration |
| 14 | ELECTRIC | Mirror failure | Unrecorded CD-ROM<br>The disc is upside-down, defects, vibration |
| 17 | ELECTRIC | Set up failure | AGC protect failed<br>→Defects, disc upside-down, severe vibration |
| 30 | ELECTRIC | Search time out | Failed to reach target address<br>→Carriage/tracking defective and/or defects |
| A0 | SYSTEM | Power failure | Power overvoltage or short circuit detected<br>→Switching transistor defective and/or power abnormal |

"defects" means scratches, dirt etc an the surface of the disc.

## ● Single CD Player New Test Mode(aging operation and setup analysis)

The single CD player plays in normal mode. After being set up, it will display FOK (focus), LOCK (spindle), subcode, sound skip, protection against a mechanical error or the like, occurrence of an error, cause and time of an expiry, if any, (and disk number)

During the setup, the CD software operation status (internal RAM and C-point)is displayed.

### (1) How to enter NEW TEST Mode

See the test mode flow chart Page 1-9.

**(2) Relations of keys between TEST and NEW TEST Modes**

| Keys | Test Mode | | New Test Mode | |
|---|---|---|---|---|
| | Regulator OFF | Regulator ON | PLAY in progress | Error Occurred, Protection Activated |
| 5 | Regulator ON | Regulator OFF | — | Time of occurrence / cause of error select |
| TRACK UP | — | FWD-Kick | TRACK UP / FF | — |
| TRACK DOWN | — | REV-Kick | TRACK DOWN /REV | — |
| 3 | — | Tracking close | SCAN | — |
| 4 | — | Tracking open | MODE | — |
| 1 | — | Focus close | — | — |
| SCAN | To New Test Mode | Focus Mode Select | AUTO/MANU | — |

Operations,such as EJECT, CD ON/OFF, etc. are performed normally

**(3) Error Cause (Error Number) Code**

| Error Code | Classification | Mode | Description | Cause | Detail |
|---|---|---|---|---|---|
| 40 | ELECTRIC | PLAY | FOK=L | Put out of focus | Scratch, Stain, Vibration, Servo defect, etc... |
| 41 | ELECTRIC | PLAY | LOCK=L 150ms | Spindle unlock | |
| 42 | ELECTRIC | PLAY | Subcode unacceptable 500ms | Failed to read subcode | |
| 43 | ELECTRIC | PLAY | Sound skipped | Last address memory operated | |

**(4) Indicating an Operation Status During Setup**

| Status No. | Description | Protection operation |
|---|---|---|
| 01 | Carriage home mode started | None |
| 02 | Carriage moving inwards | 10-second time out, Home switch failed |
| 03 | Carriage moving outwards | 10-second time out, Home switch failed |
| 05 | Carriage moving outwards | None |
| 11 | Setup started | None |
| 12 | Spindle turn/Focus search started | None |
| 13 | Waiting for focus closure (XSI=L) | Failure to close focus |
| 10,14 | Waiting for focus closure (FOK=H) | Failure to close focus |
| 15, 16, 17 | Focus closed, Tracking open | Focus disrupted |
| 18 | During focus AGC<br>Subcode waiting | Focus disrupted |
| 19 | During tracking AGC | Disrupted focus |
| 20 | Waiting for MIRR, LOCK or subcode read<br>Carriage closed, SPINDLE=ADAPTIVE | Focus disrupted, MIRR NG, Failure to lock, failed to read subcode |

**5) Example of Display.**

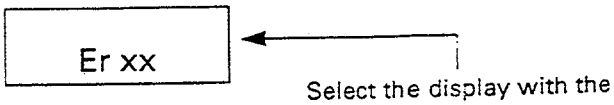
·SET UP in progress

| TNo. | Min | Sec |
|---|---|---|
| 11 | 11 | 11 |

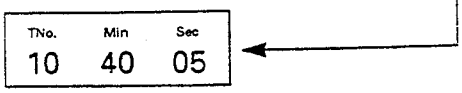
·Operation (PLAY, SEARCH, etc.) in progress perfectly identical with that in the normal mode.

·Protection/Error upon occurrence

(a) Error number indicated




(b) Track number and absolute time indicated

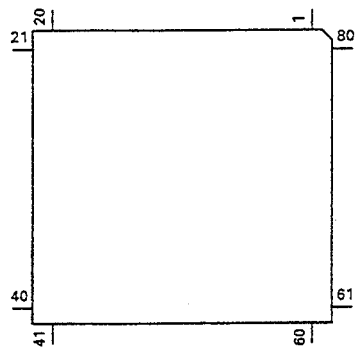


● ICs
● Pin Functions (PD4534D)

| Pin No. | Pin Name | I/O | Output Format | Function and Operation |
|---|---|---|---|---|
| 1 | VDIN | | | Power supply over voltage and short sensor input |
| 2 | TEMP | I | | Temperature detector |
| 3 | XA0 | O | | Control signal distinguishing data from microcomputer |
| 4 | AVSS | | | A/D converter GND |
| 5 | $\overline{\text{XRST}}$ | O | C | CD LSI reset output |
| 6 | EVST2 | O | C | Strobe pulse output for electronic volume |
| 7 | AVREF1 | I | | A/D converter reference voltage (Not used) |
| 8 | ELDI | I | | Data input from EEPROM and LCD driver |
| 9 | ELXDT | O | C | Data output for EEPROM, LCD driver and I/O |
| 10 | ELXCK | O | C | Clock output for EEPROM, LCD driver and I/O |
| 11 | XSI | I | | Serial data input |
| 12 | XSO | O | C | Serial data output |
| 13 | XSCK | O | C | Serial clock output |
| 14 | EJ | O | C | CD loading motor LOAD control output |
| 15 | CDPW | O | C | CD 5V control output |
| 16 | PDI | I | | Data input from PLL IC |
| 17 | PDT | O | C | Data output for PLL IC |
| 18 | PCK | O | C | Serial clock output for PLL IC |
| 19 | $\overline{\text{XSTB}}$ | O | C | CD LSI strobe output |
| 20 | CONT | O | C | Servo driver power supply control |
| 21 | LOAD | O | C | Loading motor LOAD control |
| 22 | ECE | O | C | Chip enable output for EEPROM |
| 23 | XCE | O | C | Chip enable output for external IC |
| 24 | LCE1 | O | C | Chip enable output pin for LCD driver 1 |
| 25 | LCE2 | O | C | Chip enable output pin for LCD driver 2 |
| 26 | $\overline{\text{LINH}}$ | O | C | Inhibit output for LCD drivers |
| 27 | XLOAD | O | C | Data load output for external IC |
| 28 | $\overline{\text{SYSPW}}$ | O | C | System power control output |
| 29 | ACCON | O | C | ACC 5V power supply control output |
| 30 | CDCONT | O | C | VD control input |
| 31 | MUTE | O | C | System mute output |
| 32 | ILLIN | I | | Illumination power supply sense input |
| 33 | VSS | | | GND |
| 34 | MS | I | | Cassette mechanism MS sense input |
| 35 | $\overline{\text{MTL}}$ | I | | Cassette mechanism tape select input |
| 36 | CSLOAD | I | | Tape loading detect input |
| 37 | POS | I | | Cassette mechanism position sense input |
| 38 | RES | I | | Cassette mechanism reverse end sense input |
| 39 | NES | I | | Cassette mechanism forward end sense input |
| 40 | SC2 | O | C | Cassette mechanism sub motor control output 2 |
| 41 | SC1 | O | C | Cassette mechanism sub motor control output 1 |
| 42 | CM | O | C | Cassette mechanism capstan motor control output |
| 43 | $\overline{\text{STBY}}$ | O | C | Cassette mechanism driver stand-by output |
| 44 | PCE | O | C | Chip enable output for PLL IC |
| 45 | PEE | O | C | Beep tone output |
| 46 | FECNT | I/O | C | FE output control pin |
| 47 | VST1 | O | C | Strobe pulse output for electronic volume |
| 48 | VCK | O | C | Clock output for electronic volume |
| 49 | VDT | O | C | Data output for electronic volume |
| 50 | $\overline{\text{CDMUTE}}$ | O | C | CD mute output |
| 51 | CLAMP | I | | Disc clamp sense input |
| 52 | LOCK | I | | Spindle lock detector input |
| 53 | MIRR | I | | Mirror detector input |
| 54 | FOK | I | | FOK signal input |
| 55 | $\overline{\text{HOME}}$ | I | | Home position detector input |

| Pin No. | Pin Name | I/O | Output Format | Function and Operation |
|---|---|---|---|---|
| 56 | TX | O | C | IP BUS data output |
| 57 | RX | I | | IP BUS data input |
| 58 | ANTLED | O | C | Anti-theft LED output |
| 59 | J/UC | I | | Model select input |
| 60 | $\overline{\text{RESET}}$ | I | | Reset input |
| 61 | SPDP | I | | Car speed sense pulse input |
| 62 | $\overline{\text{ASENS}}$ | I | | ACC power sense input |
| 63 | $\overline{\text{BSENS}}$ | I | | Back up power sense input |
| 64 | VOLP0 | I | | Volume up input from encoder |
| 65 | VOLP1 | I | | Volume down input form encoder |
| 66 | SD | I | | SD input |
| 67 | ILLON | O | C | Illumination power supply control output |
| 68 | VDD | | | Power supply |
| 69 | X2 | | | Crystal oscillator connection pin |
| 70 | X1 | | | Crystal oscillator connection pin |
| 71 | IC | | | Connect to GND |
| 72 | XT2 | | | Not used |
| 73 | TEST/$\overline{\text{TEN}}$ | I | | Test mode input / Test mode enable input |
| 74 | ADV | | | A/D converter analog input reference power |
| 75 | AVREF0 | I | | A/D converter reference voltage |
| 76 | DINC | I | | Disc insert sense input |
| 77 | EJTD | I | | Disc eject position sense input |
| 78,79 | BSVOL1-2 | I | | Body sonic volume input |
| 80 | SL | I | | Signal level input from tuner |

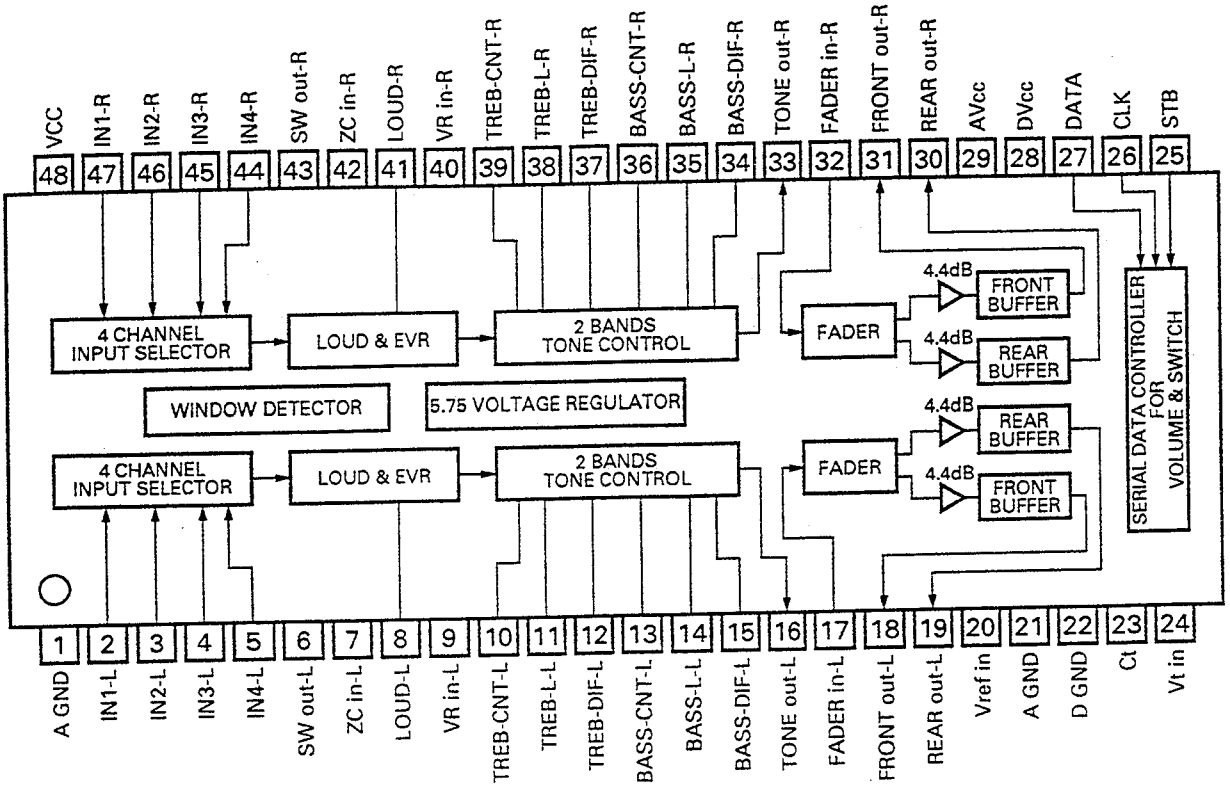
*PD4534D




*IC's marked by * are MOS type.*
*Be careful in handling them because they are very liable to be damaged by electrostatic induction.*

| Output Format | Meaning |
|---|---|
| C | CMOS |

SN761025DL

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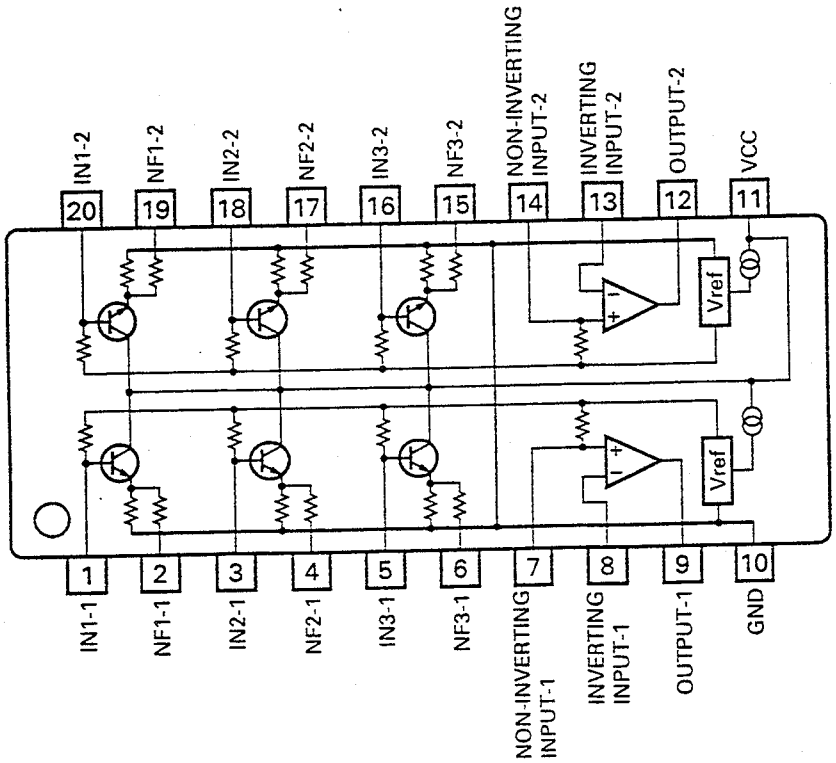
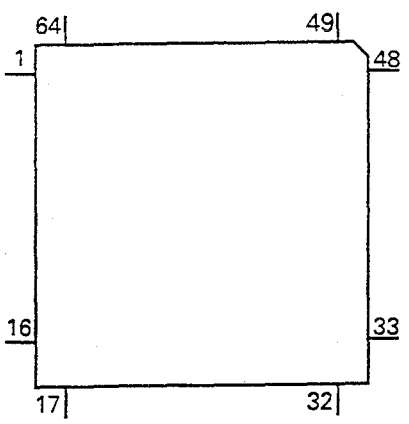


## ● Pin Functions (LC75852EHS)

| Pin No. | Pin Name | I/O | Function and Operation |
|---|---|---|---|
| 1 | ILLON | O | Illumination power supply control output |
| 2 | BLIGHT | O | LCD back light control output |
| 3,4 | NC | | Not used |
| 5–12 | S38-S45 | O | LCD segment output |
| 13 | NC | | Not used |
| 14–29 | S47-S62 | O | LCD segment output |
| 30–43 | NC | | Not used |
| 44 | COM21 | O | LCD common output |
| 45 | COM22 | O | LCD common output |
| 46–50 | KS1-KS5 | O | Key strobe output |
| 51 | NC | | Not used |
| 52–56 | KD1-KD5 | I | Key data input |
| 57 | OSC | I | Oscillator connection pin |
| 58 | GND | | GND |
| 59 | $\overline{\text{LINH}}$ | I | Inhibit input for LCD driver |
| 60 | VDD2 | | Power supply |
| 61 | LDI | O | Data output for controller |
| 62 | LCE2 | I | Chip enable output pin for controller |
| 63 | LXCK | I | Clock output for controller |
| 64 | LXDT | I | Data output for controller |

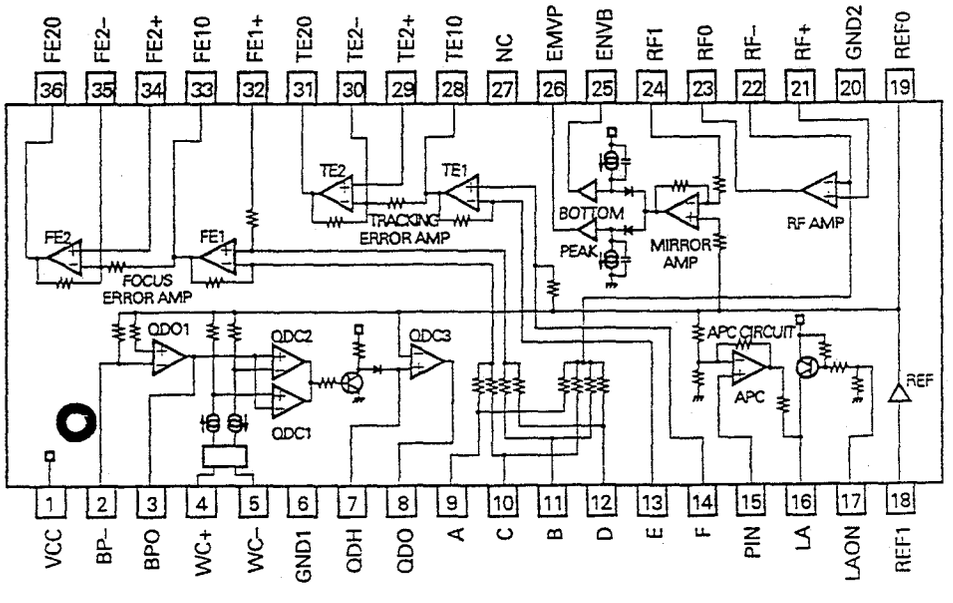
*LC75852EHS



● **Pin Functions(UPC2571GS)**

| Pin No. | Pin Name | I/O | Function and Operation |
|---|---|---|---|
| 1 | VCC | | VCC |
| 2 | BP- | I | TE zero cross amplifier input |
| 3 | BPO | O | TE zero cross amplifier output |
| 4 | WC+ | | Not used |
| 5 | WC- | | Not used |
| 6 | GND1 | | GND |
| 7 | QDH | | Not used |
| 8 | QDO | | Not used |
| 9 | A | I | A signal input |
| 10 | C | I | C signal input |
| 11 | B | I | B signal input |
| 12 | D | I | D signal input |
| 13 | E | I | E signal input |
| 14 | F | I | F signal input |
| 15 | PIN | I | APC amplifier input |
| 16 | LA | O | APC amplifier output |
| 17 | LAON | | APC amplifier ON/OFF switching |
| 18 | REFI | I | Reference voltage input |
| 19 | REFO | O | Reference voltage output |
| 20 | GND2 | | GND |
| 21 | RF+ | I | RF amplifier non-inverting input |
| 22 | RF- | I | RF amplifier inverting input |
| 23 | RFO | O | RF amplifier output |
| 24 | RFI | | Not used |
| 25 | ENVB | | Not used |
| 26 | ENBP | | Not used |
| 27 | NC | | Non connection |
| 28 | TE1O | O | Tracking error amplifier 1 output |
| 29 | TE2+ | I | Tracking error amplifier 2 non-inverting input |
| 30 | TE2- | I | Tracking error amplifier 2 inverting input |
| 31 | TE2O | O | Tracking error amplifier 2 output |
| 32 | FE1+ | I | Focus error amplifier 1 non-inverting input |
| 33 | FE1O | O | Focus error amplifier 1 output |
| 34 | FE2+ | I | Focus error amplifier 2 non-inverting input |
| 35 | FE2- | I | Focus error amplifier 2 inverter input |
| 36 | FE2O | O | Focus error amplifier 2 output |

UPC2571GS

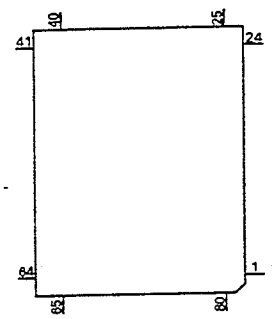


● **Pin Functions(UPD63700GF1)**

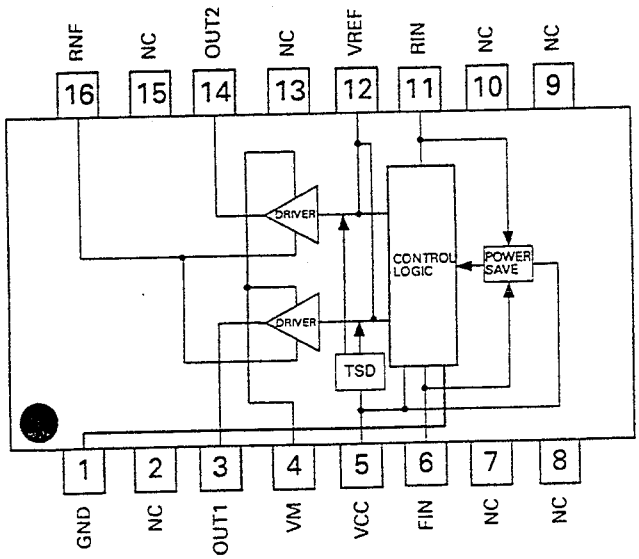
| Pin No. | Pin Name | I/O | Function and Operation |
|---|---|---|---|
| 1 | D.GND | | Logic circuit GND |
| 2 | RFOK | O | RFOK detection signal output terminal |
| 3 | MIRR | O | MIRR detection signal output terminal |
| 4 | TBC | I | Tracking filter bank switching terminal |
| 5 | HOLD | I | Hold control signal input terminal |
| 6 | D.VDD | | VDD for logic circuit |
| 7 | $\overline{RST}$ | I | System reset |
| 8 | AO | I | Control signal distinguishing data from microcomputer |
| 9 | $\overline{STB}$ | I | Signal latching serial data inside LSI |
| 10 | $\overline{SCK}$ | I | Clock input terminal for serial data input and output |
| 11 | SO | O | Serial data and status signal output |
| 12 | SI | I | Serial data input |
| 13 | TM2 | I | Double speed playback control terminal |
| 14 | D.GND | | Logic circuit GND |
| 15 | TEST | I | Test terminal |
| 16 | STBY | I | Stand-by input terminal |
| 17 | CTLV | I | Control terminal for clock generation VCO used by digital PLL in double speed playback mode |
| 18 | POUT | O | Output terminal for phase comparison between EFM signal and bit clock |
| 19 | D.GND | | Logic circuit GND |
| 20 | VCO | I | Inverter input |
| 21 | $\overline{VCO}$ | O | Inverter output |
| 22 | D.VDD | | VDD for logic circuit |
| 23 | PLCK | O | Bit clock monitor terminal |
| 24 | LOCK | O | "H" when synchronization signal and frame counter output coincide at EFM demodulator |
| 25 | WFCK | O | Signal issuring one-frame period by bit clock dividing signal |
| 26 | RFCK | O | Oscillation clock divider signal,output pin for signal giving 1-frame sync |
| 27 | C4M | O | Output terminal for signal having four the frequency of LRCK |
| 28 | C16M | O | Oscillation clock output terminal |
| 29 | D.GND | | Logic circuit GND |
| 30 | XTAL | I | Oscillation continuation terminal |
| 31 | $\overline{XTAL}$ | O | Oscillation continuation terminal |
| 32 | D.VDD | | VDD for logic circuit |
| 33 | SCKO | O | Clock output terminal for audio serial data |
| 34 | LRCK | O | Signal distinguishing between left and right channel DOUT terminal output |
| 35 | DOUT | O | Serial audio data output terminal |
| 36 | TX | O | Digital audio interface data output terminal |
| 37 | FLAG | O | Flag signal indicating that the current audio data output of incorrectable data |
| 38 | EMPH | O | Emphasis information output |
| 39 | WDCK | O | Output terminal for signal having double the frequency of LRCK |
| 40 | C2D3 | O | Output terminal indicating C2 error correction status |
| 41 | SFSY | O | Signal indicating subcode one-frame synchronization |
| 42 | SBSY | O | Signal indicating head of subcode block |
| 43 | SBSO | O | Subcode data output terminal |
| 44 | SBCK | I | Subcode data read clock input terminal |
| 45 | D.GND | | Logic circuit GND |
| 46,47 | C1D1,C1D2 | O | Output terminal indicating C1 error correction status |
| 48,49 | C2D1,C2D2 | O | Output terminal indicating C2 error correction status |
| 50 | T4 | I | Selects between focus and tracking modulation mode |
| 51 | T5 | I | Selects motor PWM output mode |
| 52 | T6 | I | Sets focus PWM output mode |
| 53 | T7 | I | Sets tracking PWM output mode |
| 54 | D.VDD | | VDD for logic circuit |
| 55 | MRD | O | PWM negative output terminal for the spindle loop filter |
| 56 | MFD | O | PWM positive output terminal for the spindle loop filter |
| 57 | SRD | O | PWM negative output terminal for the thread loop filter |
| 58 | SFD | O | PWM positive output terminal for the thread loop filter |

| Pin No. | Pin Name | I/O | Function and Operation |
|---|---|---|---|
| 59 | D.GND | | Logic circuit GND |
| 60 | TRD | O | PWM negative output terminal for the tracking loop filter |
| 61 | TFD | O | PWM positive output terminal for the tracking loop filter |
| 62 | FRD | O | PWM negative output terminal for the focus loop filter |
| 63 | FFD | O | PWM positive output terminal for the focus loop filter |
| 64 | D.VDD | | VDD for logic circuit |
| 65 | OUTSEL | I | Sets PWM output mode for the motor system |
| 66 | TEC1 | I | Tracking error input terminal |
| 67 | TEC0 | I | Tracking error input terminal |
| 68 | A.VDD | | VDD for analog circuit |
| 69,70 | VR2,VR1 | I | A/D converter input |
| 71 | TE | I | Tracking error input terminal |
| 72 | FE | I | Focus error input terminal |
| 73 | RFB | I | RFB signal input terminal |
| 74 | RFP | I | RFP signal input terminal |
| 75 | A.GND | | Analog circuit GND |
| 76 | REFOUT | O | A/D converter midpoint voltage output terminal inside LSI |
| 77 | RFI | I | RF signal input terminal for EFM comparator |
| 78 | ASI | I | Level comparing input for RF signal comparison |
| 79 | EFM | O | EFM signal output terminal |
| 80 | A.VDD | | VDD for analog circuit |

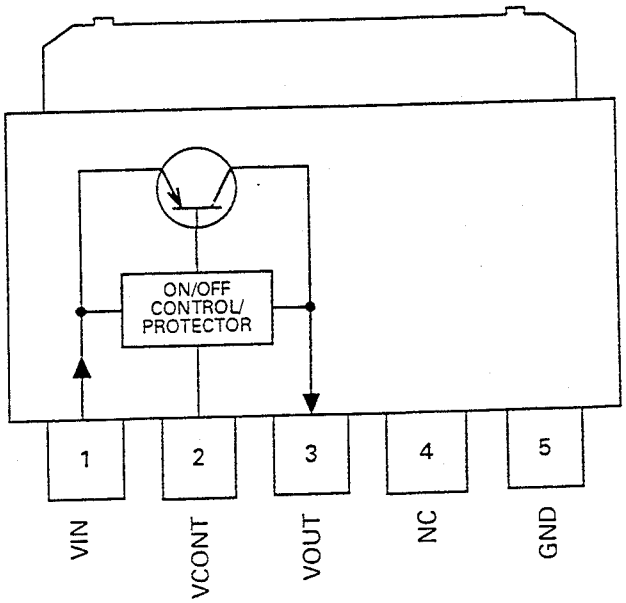
*UPD63700GF1



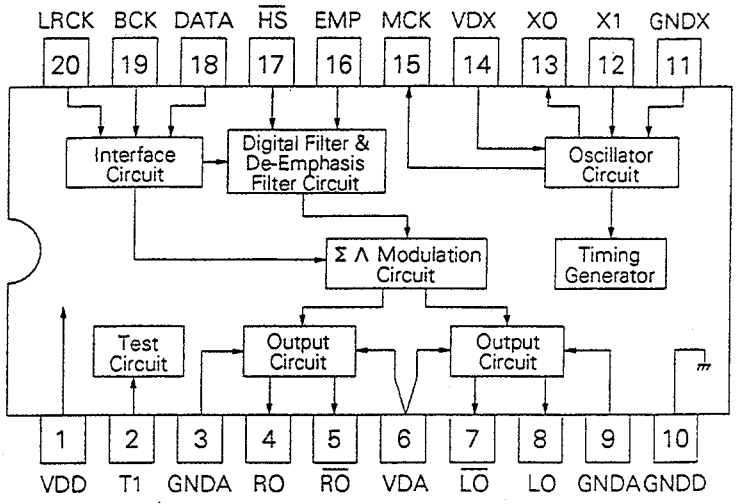

XRA6285FP



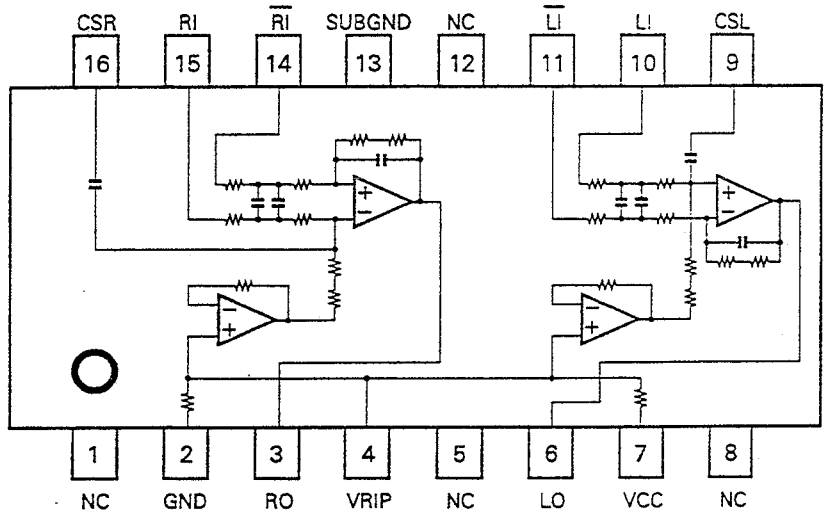

PQ05TZ51



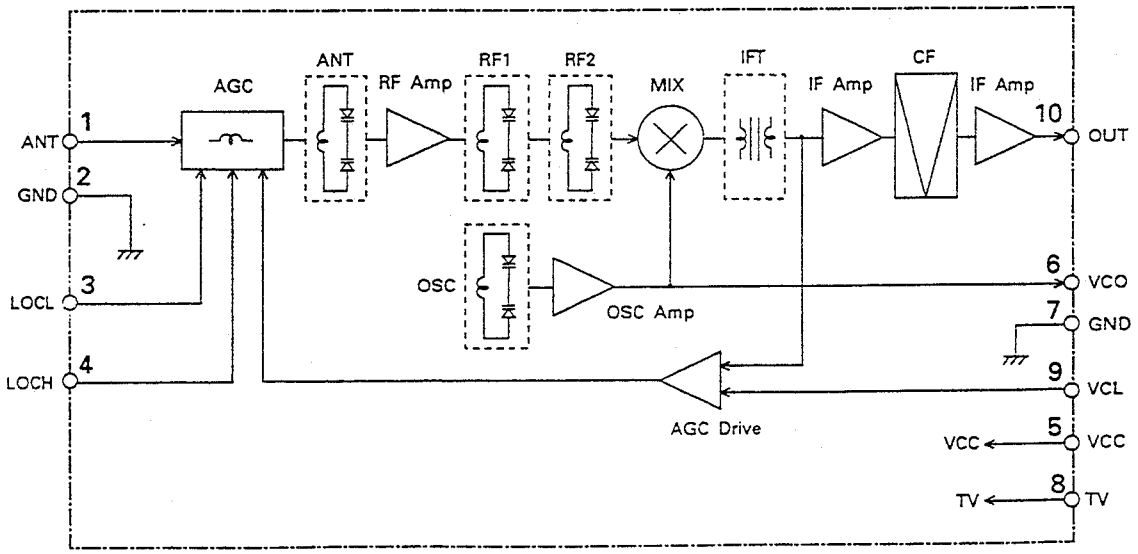
*TC9268F


LRCK BCK DATA HS EMP MCK VDX XO X1 GNDX
20 19 18 17 16 15 14 13 12 11
Interface Circuit
Digital Filter & De-Emphasis Filter Circuit
Oscillator Circuit
Σ Λ Modulation Circuit
Timing Generator
Test Circuit
Output Circuit
Output Circuit
1 2 3 4 5 6 7 8 9 10
VDD T1 GNDA RO RO VDA LO LO GNDA GNDD

TA2063F




● **FM FRONT END (CWB1059)**



# 8. ELECTRICAL PARTS LIST

NOTE:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/○S○○○J,RS1/○○S○○○J

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

| Circuit Symbol & No. | Part Name | Part No. |
|---|---|---|
| Unit Number : CWA1084 | | |
| Unit Name : AM Unit | | |
| MISCELLANEOUS | | |
| IC 201 | | LA1137NM |
| Q 201 | | FC12(12F) |
| Q 202 | | DTC124EK |
| D 201 202 | | 1SS226 |
| D 203 | | KV1562M |
| L 201 | Inductor | CTF1114 |
| L 202 | Inductor | CTF-185 |
| L 203 | Inductor | LCTA101J3225 |
| T 201 | Coil | CTB1071 |
| T 202 | Coil | CTB1072 |
| T 203 | Coil | CTB1073 |
| T 204 | Coil | CTB1085 |
| T 205 | Coil | CTE1056 |
| T 206 | Coil | CTE1057 |
| T 207 | Coil | CTB1075 |
| CF 201 | Filter | CTF1085 |
| CF 202 | Ceramic Resonator | CTF1277 |
| RESISTORS | | |
| R 201 207 213 214 | | RS1/10S103J |
| R 202 | | RS1/10S682J |
| R 203 | | RS1/10S471J |
| R 204 212 | | RS1/10S102J |
| R 205 216 | | RS1/10S220J |
| R 208 | | RS1/10S394J |
| R 209 | | RS1/10S392J |
| R 210 211 | | RS1/10S472J |
| R 215 | | RS1/10S473J |
| R 217 | | RS1/10S101J |
| R 219 | | RS1/10S562J |
| R 220 221 | | RS1/10S104J |
| R 231 | | RS1/10S820J |
| R 232 | | RS1/10S473J |
| R 233 | | RS1/10S824J |
| CAPACITORS | | |
| C 202 | | CKSQYF473Z25 |
| C 203 208 215 221 223 | | CKSQYB223K25 |
| C 204 | | CCSQCH220J50 |
| C 205 | | CEV101M10 |
| C 206 | | CEV010M50 |
| C 207 213 | | CKSQYB223K25 |
| C 209 | | CCSQCH070D50 |
| C 211 | | CKSQYB473K16 |
| C 212 | | CCSQCH090D50 |
| C 214 222 | | CEVR47M50 |
| C 216 220 | | CKSQYB103K50 |
| C 218 | | CEV3R3M50 |
| C 219 | | CEV4R7M35 |
| C 224 | | CCSQCH471G50 |
| C 225 | | CCSQCH331G50 |
| C 226 | | CCSQCH111G50 |
| C 228 | | CCSQCH101J50 |
| C 229 | | CCSQCH200G50 |
| C 230 | | CEV470M16 |
| C 232 | | CKSQYB332K50 |
| Unit Number : CWE1353 | | |
| Unit Name : FM Unit | | |
| MISCELLANEOUS | | |
| IC 51 | | PA4021A |
| Q 1 | | DTC124EU |
| Q 2 | | DTC124EU |
| Q 3 | | 2SA1586 |
| Q 123 | | 2SC4116 |
| Q 171 | | 2SC4116 |
| L 1 51 | Ferri-Inductor | LAU150K |
| L 101 | Inductor | LCTA102K4532 |
| T 51 | Coil | CTE1021 |
| T 52 | Coil | CTE1022 |
| TH 51 | Thermistor | CCX1024 |
| TH 102 | Thermistor | CCX1015 |
| CF 52 53 | Filter | CTF1057 |
| X 151 | Ceramic Resonator | CSS1055 |
| VR 1 | Semi-fixed 3.3kΩ (B) | CCP1178 |
| VR 51 | Semi-fixed 10kΩ (B) | CCP1181 |
| VR 101 | Semi-fixed 68kΩ (B) | CCP1186 |
| VR 102 | Semi-fixed 33kΩ (B) | CCP1184 |
| VR 103 | Semi-fixed 1kΩ (B) | CCP1175 |
| FE 101 | FM Front End | CWB1059 |
| RESISTORS | | |
| R 3 | | RS1/10S182J |
| R 4 | | RS1/10S103J |
| R 5 | | RS1/10S223J |
| R 6 7 21 27 | | RS1/10S0R0J |
| R 13 | | RD1/4PS0R0JL |
| R 23 61 | | RS1/10S682J |
| R 24 105 | | RS1/10S123J |
| R 54 | | RS1/10S822J |
| R 56 173 | | RS1/10S473J |
| R 57 | | RS1/10S472J |
| R 58 | | RS1/16S103J |
| R 59 | | RS1/16S331J |
| R 101 | | RS1/16S681J |
| R 102 | | RS1/16S223J |
| R 104 (SE-CW9091) RS1/16S-103J | | ← RS1/10S102J |
| R 106 172 | | RS1/10S104J |
| R 108 | | RS1/10S333J |
| R 111 | | RS1/10S183J |
| R 121 | | RS1/10S473J |
| R 122 | | RS1/10S104J |
| R 123 | | RS1/10S154J |
| R 127 | | RS1/10S333J |
| R 143 | | RS1/10S393J |
| R 144 | | RS1/10S103J |
| R 146 174 | | RS1/10S153J |

| =====Circuit Symbol & No. Part Name===== | Part No. |
|---|---|
| R 151 152 | RS1/10S222J |
| R 153 | RS1/10S222J |
| R 154 | RS1/10S124J |
| R 180 | RS1/10S105J |
| CAPACITORS | |
| C 1 111 | CEA100M16LL |
| C 2 59 129 | CKSQYB473K16 |
| C 5 21 104 172 | CKSQYB103K25 |
| C 51 | CKSQYB473K16 |
| C 52 53 61 | CKSRYB223K25 |
| C 54 | CCSQCH101K50 |
| C 57 | CSZSR33M35 |
| C 58 | CCSQCH040C50 |
| C 60 | CEA100M10NPLL |
| C 101 | CKSRYB682K50 |
| C 102 | CKSQYB682K50 |
| C 103 | CKSQYB182K50 |
| C 105 | CEA1R5M50LL |
| C 106 | CEA0R1M50LL |
| C 107 | CKSRYB222K50 |
| C 108 | CKSQYB222K50 |
| C 110 | CKSYB684K16 |
| C 112 | CKSYB183K25 |
| C 122 | CKSQYB104K16 |
| C 124 | CSZS1R5M10 |
| C 128 | CKSQYB332K50 |
| C 151 152 | CKSQYB563K25 |
| C 153 | CKSYB474K16 |
| C 154 155 156 | CEA3R3M50LL |
| C 157 | CEA101M10LL |
| C 171 | CKSQYB563K25 |
| C 173 | CKSQYB104K16 |
| C 180 | CEA2R2M50LL |
| Unit Number : CWM3709 | |
| Unit Name : Deck Unit | |
| MISCELLANEOUS | |
| IC 251 | HA12163 |
| IC 351 | PA2020A |
| Q 271 | 2SC4116 |
| Q 351 | 2SB1260 |
| Q 352 | 2SC4102 |
| D 351 | MA141K-MH |
| VR 301 302 Semi-fixed 33kΩ (B) | CCP1130 |
| RESISTORS | |
| R 251 252 253 254 | RS1/10S134J |
| R 255 256 | RS1/10S181J |
| R 257 258 271 | RS1/10S183J |
| R 259 260 | RS1/10S133J |
| R 261 262 403 405 | RS1/10S274J |
| R 272 273 322 | RS1/10S223J |
| R 274 358 359 | RS1/10S103J |
| R 275 | RS1/10S473J |
| R 276 278 | RS1/10S104J |
| R 277 | RS1/10S224J |
| R 279 280 402 | RS1/10S223J |
| R 351 352 | RS1/10S102J |
| R 353 354 360 | RS1/10S102J |
| R 355 | RS1/10S274J |
| R 356 | RS1/10S202J |
| R 357 | RS1/10S472J |
| R 361 | RS1/10S622J |
| R 401 | RS1/10S273J |
| R 404 | RS1/10S823J |

| =====Circuit Symbol & No. Part Name===== | Part No. |
|---|---|
| CAPACITORS | |
| C 251 252 253 254 | CKSQYB471K50 |
| C 255 256 353 356 | CKSQYB103K50 |
| C 257 258 | CEVNP010M50 |
| C 271 | CEV010M50 |
| C 272 | CKSQYB104K25 |
| C 301 302 | CEVNPR47M50 |
| C 309 310 | CKSQYB104K16 |
| C 351 | CKSYB224K25 |
| C 352 | CKSQYB392K50 |
| C 354 | CKSQYB473K50 |
| C 355 | CKSYB104K50 |
| C 401 | CKSQYB182K50 |
| C 402 | CKSQYB822K50 |
| C 403 | CKSQYB333K50 |
| C 404 | CKSQYB471K50 |
| Unit Number : CWM3862 | |
| Unit Name : Amp Unit | |
| MISCELLANEOUS | |
| IC 701 702 | SN761025DL |
| IC 703 704 705 706 708 710 712 715 716 | NJM2068MD1 |
| IC 707 714 | PAL001A |
| IC 709 | MC14066BF |
| IC 711 | M5243FP09 |
| IC 713 | TA2026F |
| IC 951 | M5237ML |
| IC 952 | NJM2903M |
| Q 701 702 952 959 961 962 963 965 | DTC144EU |
| Q 703 704 705 706 709 711 957 | 2SC4116 |
| Q 710 712 | 2SD1757K |
| Q 951 953 | 2SA1048-[illegible] |
| Q 954 | 2SC2459 |
| Q 955 | 2SA1049 |
| Q 956 | 2SB1238 |
| Q 958 | 2SB1335A |
| Q 960 964 966 | DTA124EU |
| D 951 | GP30ML-6373 |
| D 952 953 957 | ERA15-10 |
| D 954 | RD5R1JSB2 |
| D 955 | RD7R5JSB2 |
| D 956 | RD9R1JSB2 |
| L 951 Choke Coil | CTH1118 |
| ZN 952 Surge Absorber | ERZ-C07DK220 |
| RESISTORS | |
| R 701 705 706 707 708 712 715 716 823 824 | RS1/10S102J |
| R 702 711 805 806 841 842 | RS1/10S101J |
| R 703 710 | RS1/10S273J |
| R 704 709 | RS1/10S361J |
| R 713 714 717 718 987 | RS1/10S103J |
| R 719 720 | RS1/10S472J |
| R 721 | RS1/10S392J |
| R 722 736 737 760 761 764 765 780 781 788 | RS1/10S472J |
| R 723 726 958 959 962 963 979 | RS1/10S223J |
| R 724 | RS1/10S393J |
| R 725 742 743 770 771 981 | RS1/10S563J |
| R 727 | RS1/10S394J |
| R 728 729 730 | RS1/10S124J |
| R 731 733 815 816 817 818 819 820 821 822 | RS1/10S222J |
| R 732 734 762 763 774 775 776 777 778 779 | RS1/10S473J |
| R 735 843 | RS1/10S562J |
| R 738 739 | RS1/10S152J |
| R 740 741 768 769 | RS1/10S122J |
| R 744 745 750 751 772 773 | RS1/10S332J |
| R 746 747 844 846 | RS1/10S223J |

| =====Circuit Symbol & No. Part Name===== | | | | | | | | | | Part No. |
|---|---|---|---|---|---|---|---|---|---|---|
| R | 748 | 749 | | | | | | | | RS1/10S332J |
| R | 752 | 753 | 754 | 755 | 756 | 757 | 758 | 759 | | RS1/10S2R2J |
| R | 766 | 767 | 827 | 829 | 835 | 836 | | | | RS1/10S562J |
| R | 782 | 785 | | | | | | | | RS1/10S392J |
| R | 784 | 787 | | | | | | | | RS1/10S0R0J |
| R | 789 | 831 | 832 | 833 | 834 | 966 | | | | RS1/10S472J |
| R | 790 | 791 | | | | | | | | RS1/10S103J |
| R | 792 | 793 | | | | | | | | RS1/10S223J |
| R | 794 | 795 | | | | | | | | RS1/10S332J |
| R | 796 | 797 | | | | | | | | RS1/10S681J |
| R | 798 | 799 | 800 | 801 | 965 | 967 | 978 | | | RS1/10S221J |
| R | 802 | 803 | 804 | 813 | 814 | 971 | 972 | 973 | 976 977 | RS1/10S473J |
| R | 808 | 810 | | | | | | | | RS1/10S102J |
| R | 811 | 812 | | | | | | | | RS1/10S681J |
| R | 825 | 826 | 837 | 838 | | | | | | RS1/10S682J |
| R | 828 | 830 | 839 | 840 | | | | | | RS1/10S102J |
| R | 845 | 847 | | | | | | | | RS1/10S273J |
| R | 951 | 957 | 980 | 983 | 984 | | | | | RD1/4PS102JL |
| R | 952 | 956 | | | | | | | | RD1/4PS472JL |
| R | 953 | 955 | | | | | | | | RD1/4PS223JL |
| R | 954 | | | | | | | | | RD1/4PS561JL |
| R | 960 | 970 | | | | | | | | RD1/4PS151JL |
| R | 961 | 985 | | | | | | | | RD1/4PS331JL |
| R | 964 | 986 | | | | | | | | RD1/4PS271JL |
| R | 968 | | | | | | | | | RS1/10S563J |
| R | 969 | | | | | | | | | RD1/4PS103JL |
| R | 974 | | | | | | | | | RS1/10S183J |
| R | 975 | | | | | | | | | RS1/10S683J |
| R | 982 | | | | | | | | | RS1/10S473J |

CAPACITORS

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C | 701 | 739 | 779 | 846 | 955 | | | | | | CEA2R2M50LL |
| C | 702 | 735 | | | | | | | | | CEAR68M50LL |
| C | 703 | 710 | 712 | 724 | 726 | 734 | 740 | 749 | 755 | 851 | CEA100M10NPLL |
| C | 704 | 733 | 756 | 793 | 794 | 817 | 818 | | | | CCSQCH101K50 |
| C | 705 | 732 | | | | | | | | | CKSQYB333K50 |
| C | 706 | 731 | 825 | 826 | | | | | | | CEA2R2M35NPLL |
| C | 707 | 730 | 833 | 834 | 835 | 836 | 837 | 838 | 839 | 840 | CKSQYB102K50 |
| C | 708 | 729 | | | | | | | | | CKSQYB183K25 |
| C | 709 | 728 | 850 | 853 | | | | | | | CKSQYB152K50 |
| C | 711 | 725 | | | | | | | | | CKSQYB272K50 |
| C | 713 | 727 | | | | | | | | | CEA3R3M50LL |
| C | 714 | 715 | 722 | 723 | 741 | 742 | 743 | 746 | 747 | 748 | CEA010M50LL |
| C | 716 | 721 | 765 | 777 | 865 | | | | | | CEA010M50NPLL |
| C | 717 | 720 | 799 | 800 | 801 | 802 | 803 | 804 | | | CEA4R7M16NPLL |
| C | 718 | 744 | 854 | 856 | 857 | 859 | 860 | | | | CEA470M10LL |
| C | 719 | 745 | 758 | 759 | | | | | | | CKSYB104K50 |
| C | 736 | 750 | 828 | | | | | | | | CEA100M16LL |
| C | 737 | 751 | | | | | | | | | CKSQYB153K50 |
| C | 738 | 752 | 753 | 766 | 792 | 827 | 858 | | | | CKSQYB103K25 |
| C | 754 | | | | | | | | | | CEA220M10LL |
| C | 757 | 952 | 953 | 960 | | | | | | | CKSQYB473K50 |
| C | 760 | | | | | | | | | | CKSQYB223K50 |
| C | 761 | | | | | | | | | | CKSYB563K25 |
| C | 762 | | | | | | | | | | CKSQYB332K50 |
| C | 763 | 764 | | | | | | | | | CEAR68M50LL |
| C | 767 | 768 | | | | | | | | | CEA0R1M50NPLL |
| C | 769 | 771 | | | | | | | | | CKSQYB123K50 |
| C | 770 | 772 | 866 | 867 | | | | | | | CKSQYB153K50 |
| C | 773 | 774 | | | | | | | | | CEAR22M50LL |
| C | 775 | 776 | 778 | 845 | 847 | 956 | 958 | 961 | | | CEA010M50LL |
| C | 780 | 781 | 782 | 783 | 784 | 785 | 786 | 787 | | | CKSYB224K25 |
| C | 788 | 789 | 790 | 791 | | | | | | | CEA010M50NPLL |
| C | 795 | 797 | | | | | | | | | CKSQYB822K50 |
| C | 796 | 798 | | | | | | | | | CKSQYB681K50 |
| C | 805 | 812 | | | | | | | | | CFTNA184J50 |

| =====Circuit Symbol & No. Part Name===== | | | | | | | | | | Part No. |
|---|---|---|---|---|---|---|---|---|---|---|
| C | 806 | 811 | | | | | | | | CFTNA184J50 |
| C | 807 | 814 | | | | | | | | CFTNA563J50 |
| C | 808 | 813 | | | | | | | | CFTNA823J50 |
| C | 809 | 816 | | | | | | | | CQMA822J50LL |
| C | 810 | 815 | | | | | | | | CFTNA183J50 |
| C | 819 | 820 | 821 | 822 | | | | | | CFTNA224J50 |
| C | 823 | 824 | | | | | | | | CEA101M10LL |
| C | 829 | 830 | 831 | 832 | | | | | | CEA3R3M50LL |
| C | 841 | 842 | 843 | 844 | | | | | | CKSQYB102K50 |
| C | 848 | 849 | 959 | | | | | | | CEA470M16LL |
| C | 852 | 855 | | | | | | | | CEA100M10NPLL |
| C | 861 | 862 | | | | | | | | CKSQYB103K25 |
| C | 863 | 864 | | | | | | | | CKSQYB331K50 |
| C | 870 | 871 | | | | | | | | CCSQCH101K50 |
| C | 951 | | | | 4700 μF/16V | | | | | CCH1187 |
| C | 954 | | | | | | | | | CEA4R7M50LL |
| C | 957 | | | | | | | | | CEHAQ471M10 |

Unit Number : CWM3863
Unit Name : Key Board Unit

MISCELLANEOUS

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| IC | 901 | | | | | | | | | LC7582ASP |
| IC | 902 | | | | | | | | | LC75852EHS |
| Q | 901 | | | | | | | | | DTA144EK |
| Q | 903 | | | | | | | | | 2SB1184F5 |
| Q | 904 | | | | | | | | | DTC124EK |
| D | 901 | | | | LED | | | | | PR4553K |
| D | 903 | 904 | 905 | 906 | 907 | 908 | 909 | 910 | | 1SS352 |
| S | 901 | 902 | 903 | 904 | Switch | | | | | CSG1041 |
| S | 905 | 906 | 907 | 908 | Switch | | | | | CSG1041 |
| S | 909 | 910 | | | Switch | | | | | CSG1041 |
| S | 911 | 912 | 913 | 914 | Switch | | | | | CSG1041 |
| S | 915 | 916 | 917 | 918 | Switch | | | | | CSG1041 |
| S | 919 | 920 | 921 | 922 | Switch | | | | | CSG1041 |
| IL | 901 | 902 | 903 | 904 | Lamp 8V 60mA | | | | | CEL1356 |
| IL | 905 | 906 | 907 | 908 | Lamp 14V 40mA | | | | | CEL1355 |
| IL | 909 | 910 | 911 | 912 | Lamp 14V 40mA | | | | | CEL1355 |
| IL | 913 | 914 | | | Lamp 14V 40mA | | | | | CEL1355 |
| VR | 901 | | | | Encoder | | | | | CSD1027 |
| LCD | 901 | | | | LCD | | | | | CAW1243 |

RESISTORS

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| R | 901 | 902 | 903 | 905 | 906 | 907 | 908 | 909 | 910 | 912 | RS1/10S102J |
| R | 904 | | | | | | | | | | RS1/10S513J |
| R | 911 | | | | | | | | | | RS1/10S623J |
| R | 913 | 918 | 919 | 920 | 921 | 922 | 923 | 924 | 925 | 926 | RS1/10S102J |
| R | 914 | | | | | | | | | | RS1/4S331J |
| R | 915 | | | | | | | | | | RS1/10S0R0J |
| R | 916 | | | | | | | | | | RS1/10S822J |
| R | 917 | | | | | | | | | | RS1/10S821J |
| R | 927 | | | | | | | | | | RS1/10S102J |
| R | 928 | 929 | 930 | 931 | 932 | | | | | | RS1/10S103J |
| R | 933 | 934 | 935 | | | | | | | | RS1/10S473J |
| R | 990 | | | | | | | | | | RS1/10S472J |

CAPACITORS

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C | 901 | 903 | 904 | 906 | | | | | | | CKSQYB102K50 |
| C | 902 | 907 | | | | | | | | | CKSQYB681K50 |
| C | 908 | 909 | | | | | | | | | CKSQYB103K50 |

/// = deleted (SI-C50167)

| =====Circuit Symbol & No. | Part Name===== | Part No. |
|---|---|---|
| Unit Number : CWM3866 | | |
| Unit Name : Control Unit(System) | | |
| MISCELLANEOUS | | |
| IC 351 | | PAJ001A |
| IC 451 (SC-C49158) | | TA2050S -> DELETED |
| IC 452 | | XRA3131FS |
| IC 501 | | LC72140M |
| IC 601 | | PD4534D |
| IC 602 | | MB88306PF |
| IC 603 | | PDV001A |
| IC 604 (SC-C49158) | | PA0051AM -> DELETED |
| Q 351 511 602 603 604 605 (SI-C50167) | | DTA144EK -> UMC5N |
| Q 352 | | 2SD1267A |
| Q 353 | | 2SB1238 |
| Q 354 359 360 607 (SC-C49065) ← (SI-C50167) | | DTC144EK -> DTC114EK |
| Q 355 (SC-C49133) | | 2SD1862 -> 2SD1859 |
| Q 356 | | UN2111 |
| Q 357 | | UN2211 |
| Q 358 | | 2SD1273A |
| Q 501 502 | | DTB113ZS |
| Q 503 | | 2SC2459 |
| Q 504 | | 2SC2498 |
| Q 505 (SI-C50167) | | 2SK879 -> 2SK203 |
| Q 506 (SI-C50167) | | 2SC4116 -> 2SC2712 |
| Q 507 (SI-C50167) | | 2SA1586 -> 2SA1162 |
| Q 508 509 | | 2SC2712 |
| Q 510 | | DTC124EK |
| Q 514 | | 2SC2712 |
| Q 515 | | UN2111 |
| Q 516 | | UN2212 |
| Q 606 | | 2SB1335A |
| D 351 352 | | WG713 |
| D 353 | | HZS9LB2 |
| D 354 | | HZS6LB1 |
| D 355 | | MA8100M |
| D 356 | | HZS7LC3 |
| D 357 358 | | ERA15-10 |
| D 501 502 503 504 505 506 509 (SI-C50167) (SI-C50167) | | 1SS352 -> MA151WK -> deleted |
| D 507 | | MA8030L |
| D 508 | | MA8056M |
| D 601 | | MA8051M |
| D 602 603 (SC-C49152) | | RD18JSB1 -> DELETED |
| L 501 602 | Inductor | LCTA101K3225 |
| L 601 | Inductor | LCTB2R2K2125 |
| L 901 (SI-C50167) | Inductor deleted -> | LCTA1R0J3225 |
| T 501 | Coil | CTB1039 |
| TC 601 | Trimmer | CCG-070 |
| TH 601 | Thermistor | CCX1020 |
| X 501 | Crystal Resonator | CSS1011 |
| X 601 | | CSS1303 |
| AR 501 | | DSP-201M |
| | AM Unit | CWA1084 |
| | FM Unit | CWE1353 |
| RESISTORS | | |
| R 351 (SI-C50167 -> RA3C473J) | | RS1/10S683J |
| R 352 353 354 355 358 360 453 459 506 507 | | RS1/10S473J |
| R 356 | | RS1/10S563J |
| R 357 361 363 370 471 472 508 (SC-C49152) | | RS1/10S223J -> DELETED |
| R 359 | | RS1/10S183J |
| R 362 | | RD1/4PS271JL |
| R 364 662 (SC-C49065) RS1/4PS122J | | RS1/10S332J |
| R 365 650 655 | | RS1/10S222J |
| R 366 | | RD1/4PS471JL |
| R 367 | | RD1/4PS221JL |
| R364 (SC-C49093) | | RS1/4S331J |
| R362 (SC-C49093) | | RS1/4S561J |
| R366 (SC-C50004) | | RS1/10S224J |
| R373 (SI-C50167) | | RS1/10S0R0J |
| 1-34 | | |

| =====Circuit Symbol & No. | Part Name===== | Part No. |
|---|---|---|
| R 368 (SC-C50079) | | RS1/10S223J -> RS1/10S |
| R 369 520 522 523 558 660 | | RS1/10S103J |
| R 371 | | RD1/4PS332JL |
| R 451 455 457 461 | | RS1/10S123J |
| R 454 460 475 476 477 478 (SC-C49158) | | RS1/10S103J -> DELETE |
| R 456 462 | | RS1/10S102J |
| R 464 467 | | RS1/10S223J |
| R 469 470 (SC-C49158) | | RS1/10S181J -> DELETE |
| R 473 474 501 503 517 518 531 532 537 538 | | RS1/10S102J -> DELETE |
| R 504 505 | | RS1/10S472J |
| | | ↳ SI-C50167 -> RA3C |
| R 509 521 623 625 627 629 631 633 635 651 | | RS1/10S473J |
| R 510 | | RS1/10S331J |
| R 511 | ↳ RA3C473J (SI-C50167) | RS1/10S182J |
| R 512 514 534 667 668 (SC-C49158) | | RS1/10S101J -> DELET |
| R 513 | | RS1/10S821J |
| R 515 | | RS1/10S335J |
| R 516 | | RS1/10S562J |
| R 519 | | RS1/10S152J |
| R 524 | | RS1/10S103J |
| R 525 526 | | RS1/10S333J |
| R 527 528 | | RS1/10S272J |
| R 529 | | RS1/10S123J |
| R 535 | | RS1/10S122J |
| R 536 (SI-C50167) | | RS1/10S153J |
| R 539 540 541 542 543 544 545 605 609 611 | | RS1/10S102J |
| | | ↳ RA4C102J |
| R 546 547 (SI-C50167) RA3C102J | | RS1/10S0R0J |
| R 548 | | RS1/10S221J |
| R 551 | | RS1/10S123J |
| R 554 | | RS1/10S102J |
| R 557 | | RS1/10S392J |
| R 601 | | RS1/10S682J |
| R 602 610 616 648 | | RD1/4PS102JL |
| R 603 (SI-C50167 -> RA4C472J) | | RS1/10S102J |
| R 604 642 643 644 661 669 670 | | RS1/10S472J |
| R 606 608 | | RD1/4PS681JL |
| R 607 614 639 (SI-C50167; RA3C102J) | | RS1/10S681J |
| R 612 613 615 617 618 619 620 621 622 624 | | RS1/10S102J |
| R 626 628 630 632 634 636 637 638 640 646 | | RS1/10S102J -> RA4C |
| R 645 657 (SI-C50167) deleted | | RD1/4PS222JL |
| R 647 | | RD1/4PS473JL |
| R 649 671 672 673 674 682 683 | | RS1/10S102J |
| R 653 654 676 677 678 680 681 | | RS1/10S473J |
| R 656 (SC-C49065) RS1/10S332J | | RS1/10S224J |
| R 658 (SC-C49064) RD1/4PS333J | | RD1/4PS224JL |
| R 659 | | RS1/10S104J |
| R 663 | | RN1PR22JL |
| R 665 666 (SC-C49158) | | RS1/10S121J -> DELETE |
| CAPACITORS | | |
| C 351 0.1F/5.5V | | CCL1023 |
| C 352 | | CEA101M10LS |
| C 353 354 365 610 611 (SC-C49153) | | CKSQYF104Z25 -> DEL |
| C 355 | | CEAS4R7M50 |
| C 357 | | CKSQYB473K50 |
| C 358 | | CEAS100M50 |
| C 359 367 | | CEAS4R7M50 |
| C 360 363 501 503 527 528 536 604 605 608 | | CKSQYB102K50 -> DEL |
| C 361 533 534 | | CKSQYB473K50 |
| C 364 368 456 537 (SC-C49158) | | CEAS100M50 -> DELE |
| C 366 | | CASA220M10 |
| C 369 | | CEA100M25LL |
| C 370 | | CEAS101M10 |
| C 451 452 453 454 457 458 459 460 461 462 | | CEA3R3M25NPLL -> DE |
| C 455 469 (SC-C49153) | | CEAS470M25 -> DELE |
| C 464 467 | | CCSQCH101K50 |
| R.622 (1.2 kΩ) | | 2SA1453 |

| =====Circuit Symbol & No. Part Name===== | Part No. |
|---|---|
| C 470 508 510 525 | CEAS101M10 |
| C 471 516 617 | CKSQYB223K50 |
| C 472 519 529 | CEAS220M16 |
| C 502 | CKSQYB473K50 |
| C 504 505 | CKSQYB222K50 |
| C 506 507 613 | CCSQCH120J50 |
| C 511 517 520 526 530 607 618 | CKSQYB103K50 |
| C 512 | CKSQYB561K50 |
| C 513 514 | CCSQCH101K50 |
| C 515 4.7 μF/16V | CCH1165 |
| C 521 | CCSQCH100D50 |
| C 522 | CKSQYB183J50 |
| C 523 524 | CKSYB104K50 |
| C 535 | CKSQYB222K50 |
| C 609 | CKSQYB102K50 |
| C 612 | CCSQCH220J50 |
| C 615 616 | CEA010M50LS2 |

Unit Number : CWX1756
Unit Name : Control Unit(CD Mechanism Module)

MISCELLANEOUS

| | | |
|---|---|---|
| IC 1001 | | UPC2571GS |
| IC 1201 | | UPD63700GF1 |
| IC 1301 | | PA3026 |
| IC 1302 | | XRA6285FP |
| IC 1303 | | NJM4558M |
| IC 1601 | | TC9268F |
| IC 1602 | | TA2063F |
| IC 1701 | | PQ05TZ51 |
| Q 1001 | | 2SB1260 |
| Q 1601 1602 | | 2SD1781K |
| Q 1603 | | 2SB709A |
| D 1601 | | MA151WA-MN |
| D 1701 1702 1703 1704 | | SC016-2 |
| D 1801 1802 1803 | LED | CL200IRX |
| L 1601 | *Inductor* | LCTBR39K2125 |
| X 1601 | Crystal Resonator 16.9344MHz | CSS1067 |
| S 1801 1802 | Switch (Home, Clamp) | CSN1028 |
| VR1001 | Semi-fixed 2.2kΩ (B) | CCP1177 |
| VR1002 | Semi-fixed 22kΩ (B) | CCP1183 |
| VR1003 1004 | Semi-fixed 47kΩ (B) | CCP1185 |

RESISTORS

| | |
|---|---|
| R 1001 | RS1/8S100J |
| R 1002 | RS1/8S120J |
| R 1003 1201 1307 1309 | RS1/16S103J |
| R 1004 1013 1024 1025 1311 1315 1318 1708 | RS1/16S102J |
| R 1005 | RS1/16S823J |
| R 1006 | RS1/16S182J |
| R 1007 | RS1/16S333J |
| R 1011 1012 | RS1/16S683J |
| R 1014 1310 | RS1/16S473J |
| R 1018 | RS1/16S622J |
| R 1019 | RS1/16S563J |
| R 1020 | RS1/16S622J |
| R 1021 | RS1/16S513J |
| R 1022 | RS1/16S133J |
| R 1027 | RS1/16S183J |
| R 1028 | RS1/16S822J |
| R 1301 1302 | RS1/16S222J |
| R 1303 1606 1607 | RS1/16S223J |
| R 1304 | RS1/16S123J |
| R 1305 1306 1705 | RS1/16S332J |
| R 1308 | RS1/16S163J |
| R 1314 | RS1/16S0R0J |
| R 1317 | RS1/16S473J |
| R 1601 | RS1/16S301J |
| R 1604 1605 | RS1/16S102J |

| =====Circuit Symbol & No. Part Name===== | Part No. |
|---|---|
| R 1608 1609 | RS1/16S162J |
| R 1610 | RS1/16S103J |
| R 1801 1802 1803 | RS1/8S821J |

CAPACITORS

| | |
|---|---|
| C 1001 1008 1010 1011 1303 | CKSRYB102K50 |
| C 1002 1609 1706 | CEV101M6R3 |
| C 1003 | CKSQYB104K16 |
| C 1004 | CEV470M6R3 |
| C 1005 | CCSRCH101J50 |
| C 1006 | CKSRYB561K50 |
| C 1007 1704 | CKSYB334K16 |
| C 1009 | CCSRCH181J50 |
| C 1013 | CKSRYB103K50 |
| C 1014 | CCSRCH220J50 |
| C 1015 1016 1017 1018 1201 1202 | CKSYF105Z16 |
| C 1021 | CKSYB104K16 |
| C 1022 | CKSRYB332K50 |
| C 1023 | CKSRYB561K50 |
| C 1203 | CKSRYB471K50 |
| C 1301 1302 | CKSRYF683Z25 |
| C 1304 | CKSRYB152K50 |
| C 1305 | CKSRYB271K50 |
| C 1307 1310 1605 1608 | CKSRYB103K50 |
| C 1308 | CKSRYF103Z50 |
| C 1309 | CEV470M16 |
| C 1601 | CCSRCH151J50 |
| C 1602 | CCSRCH100D50 |
| C 1603 1604 1705 | CKSYB224K16 |
| C 1606 1607 | CCSRCH090D50 |
| C 1612 | CEV220M6R3 |
| C 1613 1614 | CEV4R7M35 |
| C 1701 1702 | CCSRCH100D50 |
| C 1703 | CEV220M16 |

Unit Number : EWM1003
Unit Name : P.C.Board Unit

| | | | | |
|---|---|---|---|---|
| S | 1 | 2 | Switch | ESN1013 |
| EGN | 1 | 2 | Photo-Interrupter | GGC1066 |
| R | 1 | | | RS1/8S271J |
| R | 2 | | | RS1/8S681J |

Unit Number :
Unit Name : Detector P.C.Board

| | | | | |
|---|---|---|---|---|
| P | 1 | 2 3 | Photo Transistor | PT4800 |

Miscellaneous Parts List

| | | | |
|---|---|---|---|
| | | PU Unit | CGY1032 |
| M | 1 | Motor Unit (Spindle) | CXA5703 |
| M | 2 | Motor Unit (Carriage) | CXA7150 |
| M | 3 | Motor Unit (Loading) | CXA6456 |
| EGN | 3 | Photo-Interrupter | EGN1002 |
| M | 1 | Motor Unit (Main) | EXA1335 |
| M | 2 | Motor Unit (Sub) | EXA1279 |
| HD | 1 | Head Assy | EXA1364 |
| VR 902 | | Volume 50kΩ (B)x2 | CCS1233 |

# 9. EXPLODED VIEW PARTS LIST

NOTE:

● Parts marked by "✱"are generally unavailable because they are not in our Master Spare Parts List.

● **Chassis(Exploded View:Page 2-3)**

| Mark No. | Description | Part No. |
|---|---|---|
| 1 | Screw | BMZ30P050FMC |
| 2 | LED(D901) | PR4553K |
| 3 | LCD(LCD901) | CAW1243 |
| 4 | Screw | BMZ30P100FMC |
| 5 | Screw | CBA1021 |
| 6 | Screw | BSZ26P050FMC |
| 7 | Cord | CDE1713 |
| 8 | Antenna Cable | CDH1194 |
| 9 | Case | CNB1809 |
| 10 | Bracket(L) | CNC5777 |
| 11 | Bracket(R) | CNC5778 |
| 12 | Spacer | CNM4124 |
| 13 | Spacer | CNM4143 -> DELETED |
| 14 | Spacer | CNM4205 |
| 15 | P.C.Board | CNP3534 |
| 16 | Heat Sink | CNR1328 |
| 17 | Amp Unit | CWM3862 |
| 18 | Chassis Assy | CXA6486 |
| 19 | Bush | CNW-319 |
| 20 | CD Mechanism Module | CXK2820 |
| 21 | Cassette Mechanism Module | EXK3030 |
| 22 | Plug(CN701) | CKM1035 |
| 23 | Plug(CN702) | CKM1036 |
| 24 | Plug(CN703) | CKM1183 |
| 25 | Connector(CN951) | CKS2752 |
| 26 | Connector(CN704) | CKS2999 |
| 27 | Holder | CNC5331 |
| 28 | Holder | CNC5332 |
| 29 | Holder | CNC5333 |
| 30 | Screw | BMZ30P060FMC |
| 31 | Holder | CNC5329 |
| 32 | Screw | BMZ30P050FMC |
| 33 | Insulator | CNM3961 |
| 34 | Control Unit | CWM3866 |
| 35 | Chassis Assy | CXA6485 |
| 36 | Screw | BPZ26P080FMC |
| 37 | Knob | CAA1362 |
| 38 | Button(EJECT) | CAC3957 |
| 39 | Button(UP,DOWN) | CAC4157 |
| 40 | Button(1,2) | CAC4158 |
| 41 | Button(3,4) | CAC4159 |
| 42 | Button(5,6) | CAC4160 |
| 43 | Button(SCAN,AUTO MEMO) | CAC4161 |
| 44 | Button(AM) | CAC4162 |
| 45 | Button(FM1/2) | CAC4163 |
| 46 | Button(CD) | CAC4164 |
| 47 | Button(TAPE) | CAC4165 |
| 48 | Button(AUDIO) | CAC4166 |
| 49 | Button(CLOCK) | CAC4167 |
| 50 | Button(MUTE,ALC) | CAC4168 |
| 51 | Button(WIDE,ILL) | CAC4170 |
| 52 | Earth Plate | CNC5327 |
| 53 | Earth Plate | CNC5489 |
| 54 | Cushion | CNM3958 |
| 55 | Cushion | CNM4271 |
| 56 | Cushion | CNM3960 |
| 57 | Cushion | CNM4068 |
| 58 | Lens | CNV3881 |
| 59 | Lens | CNV3882 |
| 60 | Key Board Unit | CWM3863 |
| 61 | Grille Assy | CXA7438 |
| 62 | Door | CAT1621 |
| 63 | Spring | CBH1709 |
| 64 | Nut | CBN1008 |
| 65 | Volume(VR902) | CCS1233 |
| 66 | Holder | CNC5696 |
| 67 | P.C.Board | CNP3706 |
| 68 | Connector(CN453) | CKS1546 |
| 69 | Connector(CN454) | CKS2480 -> DELETED |
| 70 | Connector(CN601) | CKS2659 |
| 71 | Connector(CN451,452) | CKS3014 |
| 72 | Holder | CNC2218 |
| 73 | Holder | CNC5334 |
| 74 | AM Unit | CWA1084 |
| 75 | FM Unit | CWE1353 |
| 76 | Screw | BMZ30P060FMC |
| 77 | Holder | CNC5330 |
| 78 | Holder | CNC5471 |
| 79 | Plate | CNM3956 |
| 80 | Lens | CNV3884 |
| 81 | Housing | CNV3885 |
| 82 | Holder | CNV3959 |
| 83 | Holder Assy | CXA6589 |
| 84 | Connector(CN901) | CKS2669 |
| 85 | Connector(CN902) | CKS2755 |
| 86 | Holder | CNC4710 |
| 87 | Plug(CN2) | CKS1607 |
| 88 | Plug(CN1) | CKS1616 |
| 89 | Holder | CNC4666 |
| 90 | Insulator | CNM3975 |
| | SPACER | CNM4734 |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 91 | FM Front End | CWB1059 |
| | 92 | Encoder(VR901) | CSD1027 |
| | 93 | Transistor(Q358) | 2SD1273A |
| | 94 | Transistor(Q952) | 2SD1267A |
| | 95 | Transistor(Q606,958) | 2SB1335A |
| | 96 | Antenna Jack(AJ501) | CKX1046 |
| | 97 | IC(IC707,714) | PAL001A |
| * | 98 | Terminal(CN201) | CKF1026 |

18 PIN JIG (SI-C60 FEB96) FEB/0??

## ● CD Mechanism Module (Exploded View:Page 2-5)

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | Screw | PMS26P040FMC |
| | 2 | Control Unit | CWX1756 |
| | 3 | Connector(CN1001) | CKS1955 |
| | 4 | Connector(CN1701) | CKS2775 |
| | 5 | Connector(CN1002) | CKS2811 |
| | 6 | Connector(CN1801) | CKS2196 |
| | 7 | CD Mechanism Unit | CXA6815 |
| | 8 | Screw | BMZ20P030FMC |
| | 9 | Screw | BSZ20P040FMC |
| | 10 | Screw | CBA1250 |
| | 11 | Screw | CBA1077 |
| | 12 | Screw | CBA1230 |
| | 13 | Screw | CBA1296 |
| | 14 | Washer | CBF1038 |
| | 15 | Washer | CBF1060 |
| | 16 | Spring | CBH1415 |
| | 17 | Spring | CBH1417 |
| | 18 | Spring | CBH1418 |
| | 19 | Spring | CBH1421 |
| | 20 | Spring | CBH1423 |
| | 21 | Spring | CBH1457 |
| | 22 | Spring | CBH1552 |
| | 23 | Spring | CBH1553 |
| | 24 | Spring | CBH1554 |
| | 25 | Spring | CBH1665 |
| | | SPRING(SI-C40140) | CBH1663 |
| | 26 | Spring | CBH1556 |
| | 27 | Spring | CBH1557 |
| | 28 | Spring | CBH1558 |
| | 29 | Spring | CBH1664 |
| | 30 | Spring | CBH1560 |
| | 31 | Spring | CBH1576 |
| | 32 | Spring | CBH1577 |
| | 33 | Spring | CBH1666 |
| | 34 | Spring | CBH1583 |
| | 35 | Spring | CBH1628 |
| | 36 | Spring | CBL1170 |
| | 37 | Spring | CBL1171 |
| | 38 | Spring | CBL1200 |
| | 39 | Connector | CDE4147 |
| | 40 | PU Unit | CGY1032 |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 41 | Shaft | CLA2220 |
| | 42 | Roller | CLA2255 |
| | 43 | Shaft | CLA2256 |
| | 44 | Frame | CNC5661 |
| | 45 | Arm | CNC5565 |
| | 46 | Lever | CNC4891 |
| | 47 | Lever | CNC4892 |
| | 48 | Bracket | CNC4893 |
| | 49 | Arm | CNC4895 |
| | 50 | Arm | CNC5566 |
| | 51 | Bracket | CNC5424 |
| | 52 | Spacer | CNM3315 |
| | 53 | Holder | CNV4018 |
| | 54 | Sheet | CNM3693 |
| | 55 | Bracket | CNM3917 |
| | 56 | Belt | CNT1053 |
| | 57 | Clamper Unit | CXA6999 |
| | 58 | Guide | CNV2891 |
| | 59 | Holder | CNV3276 |
| * | 60 | Roller | CNV3412 |
| | 61 | Damper | CNV3974 |
| | 62 | Arm | CNV3565 |
| | 63 | Arm | CNV3992 |
| | 64 | Gear | CNV3567 |
| | 65 | Gear | CNV3568 |
| | 66 | Gear | CNV3569 |
| | 67 | Gear | CNV3570 |
| | 68 | Arm | CNV3571 |
| | 69 | Holder | CNV3572 |
| | 70 | Gear | CNV3573 |
| | 71 | Holder | CNV3574 |
| | 72 | Holder | CNV4067 |
| | 73 | Holder | CNV3576 |
| | 74 | Rack | CNV3577 |
| | 75 | Arm | CNV3578 |
| | 76 | Plate | CNV3629 |
| | 77 | Guide | CNV3694 |
| * | 78 | Gathering P.C.Board | CNX2261 |
| | 79 | Gathering P.C.Board | CNX2128 → CNP 4230 |
| | 80 | Screw Unit | CXA2375 |

SI-C50138

| Mark No. | Description | Part No. |
|---|---|---|
| 81 | Motor Unit | CXA7150 |
| 82 | Chassis Unit | CXA6979 |
| 83 | Arm Unit | CXA5603 |
| 84 | Arm Unit | CXA5604 |
| 85 | Bracket Unit | CXA5605 |
| 86 | Lever Unit | CXA6975 |
| 87 | Arm Unit | CXA5607 |
| 88 | Arm Unit | CXA5608 |
| 89 | Gear Unit | CXA6976 |
| 90 | Motor Unit | CXA5703 |
| 91 | Bracket Unit | CXA5938 |
| 92 | Frame Unit | CXA6192 |
| 93 | Motor Unit | CXA6456 |
| 94 | Screw | JFZ17P035FNI |
| 95 | Screw | JFZ20P014FMC |
| 96 | Screw | JFZ20P020FZK |
| 97 | Screw | JFZ20P025FMC |
| 98 | Photo-transistor | PT4800 |
| 99 | Washer | YE15FUC |
| 100 | Washer | YE20FUC |
| 101 | ••••• | |
| 102 | Sheet | CNM4028 |
| 103 | Spring (SL-C48164) | CBH1710 |
| 104 | Spacer | CNC5436 |
| 105 | Screw | JFZ20P045FMC |
| 106 | Washer | CBF1061 |
| 107 | Cushion | CNM4089 |
| 108 | ••••• | |
| 109 | Cushion | CXX1136 |

## ● Cassette Mechanism Module (Exploded View:Page 2-7)

| Mark No. | Description | Part No. |
|---|---|---|
| 1 | ••••• | |
| 2 | Screw | BSZ20P040FMC |
| 3 | Screw(M2x4) | CBA1015 |
| 4 | Washer | CBF1037 |
| 5 | Washer | CBF1038 |
| 6 | Washer | CBG1003 |
| 7 | ••••• | |
| 8 | Deck Unit | CWM3709 |
| 9 | Spring | EBH1458 |
| 10 | Spring | EBH1434 |
| 11 | Spring | EBH1435 |
| 12 | Spring | EBH1437 |
| 13 | Spring | EBH1464 |
| 14 | Spring | EBH1439 |
| 15 | Spring | EBH1440 |
| 16 | Spring | EBH1441 |
| 17 | Spring | EBH1442 |
| 18 | Spring | EBH1443 |
| 19 | Spring | EBH1446 |
| 20 | ••••• | |
| 21 | Spring | EBL1016 |
| 22 | Connector(CN252) | CKS2127 |
| 23 | Photo-Interrupter | EGN1002 |
| 24 | Roller | ELA1281 |
| 25 | Shaft | ELA1282 |
| 26 | Roller | ELA1283 |
| 27 | Cover | ENC1307 |
| 28 | Connector(CN251) | CKS1711 |
| 29 | Connector(CN253) | CKS2129 |
| 30 | Arm | ENC1310 |
| 31 | Arm | ENC1311 |
| 32 | Lever | ENC1312 |
| 33 | Holder | ENC1365 |
| 34 | Cover | ENC1372 |
| 35 | Lever | ENC1315 |
| 36 | Lever | ENC1353 |
| 37 | Bracket | ENC1317 |
| 38 | Arm | ENC1335 |
| 39 | P.C.Board | ENP1109 |
| 40 | P.C.Board | ENP1120 |
| 41 | P.C.Board | ENP1119 |
| 42 | Roller | ENR1023 |
| 43 | Belt | ENT1027 |
| 44 | Gear | ENV1422 |
| 45 | Gear | ENV1347 |
| 46 | Gear | ENV1423 |
| 47 | Collar | ENV1349 |
| 48 | Gear | ENV1350 |
| 49 | Gear | ENV1351 |
| 50 | Gear | ENV1354 |
| 51 | Gear | ENV1355 |
| 52 | Gear | ENV1357 |
| 53 | Gear | ENV1358 |
| 54 | Gear | ENV1359 |
| 55 | Clamper | ENV1360 |
| 56 | Clamper | ENV1361 |
| 57 | Arm | ENV1362 |
| 58 | Gear | ENV1363 |
| 59 | Flywheel | ENV1410 |
| 60 | Head Assy | EXA1364 |

# 1. EXPLODED VIEW

● **Chassis(Parts List : Page 1-36)**

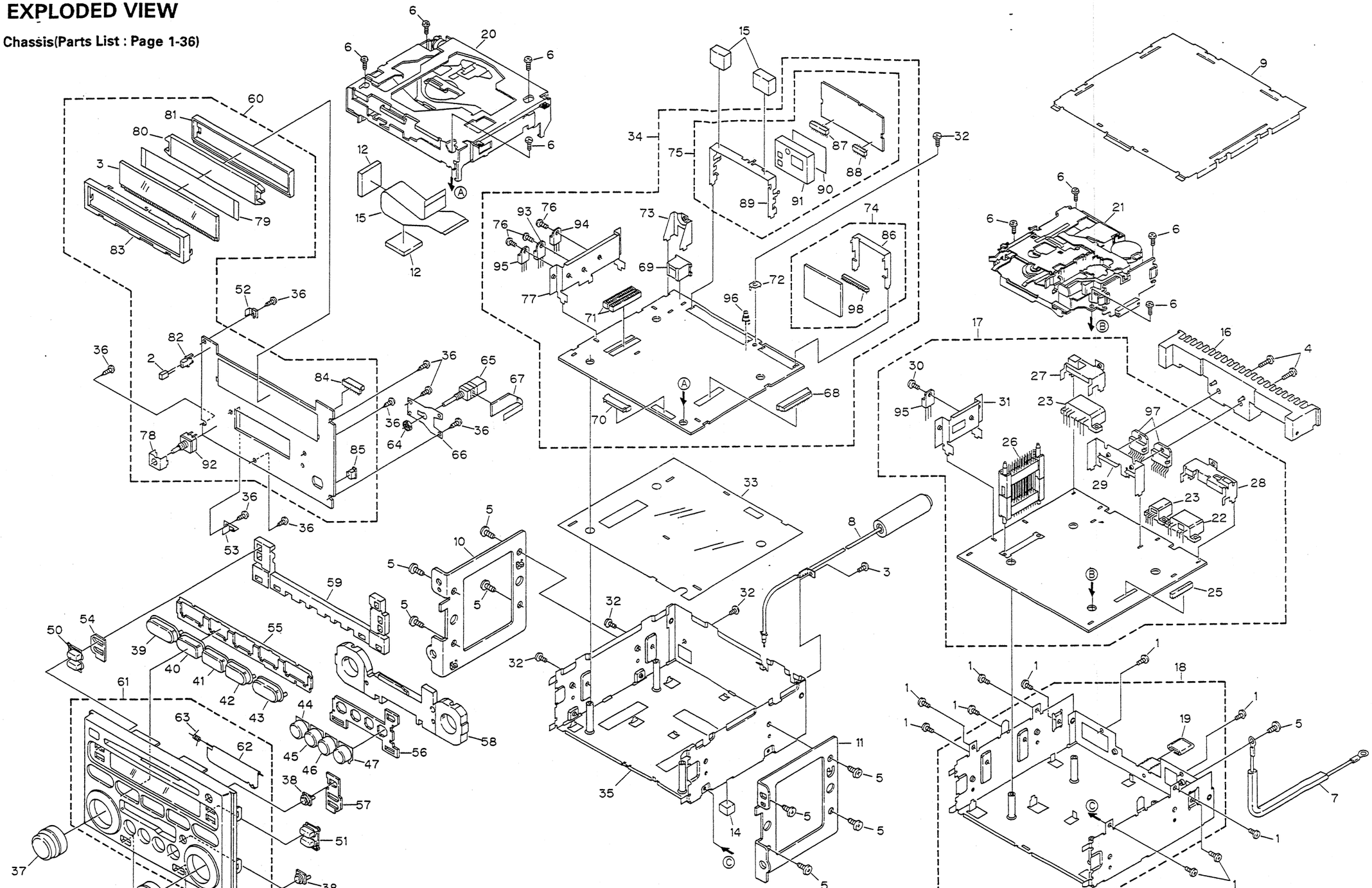



Fig.1

CD Mechanism Module(Parts List : Page 1-37)

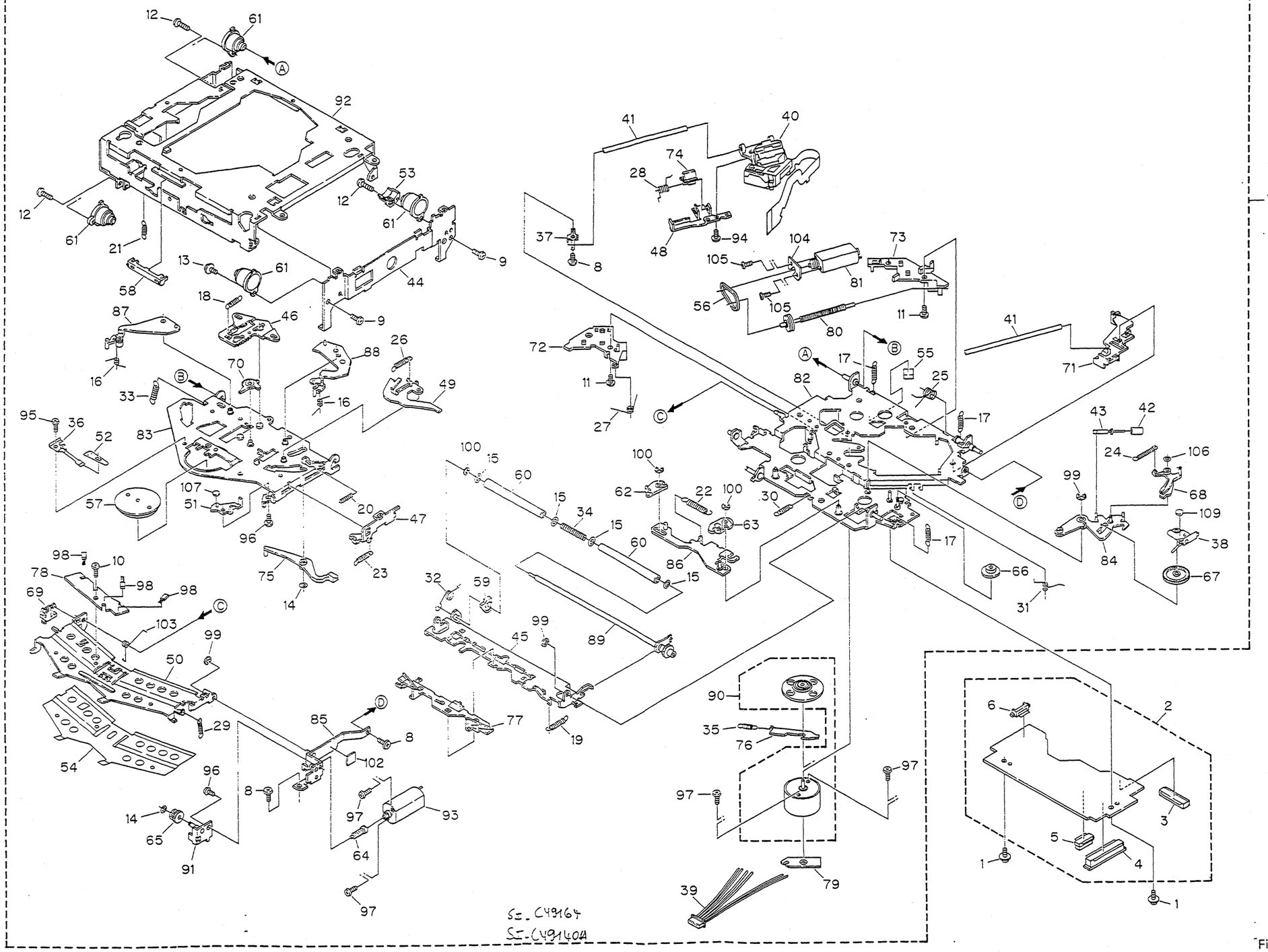



Fig.2

● Cassette Mechanism Module(Parts List : Page 1-38)

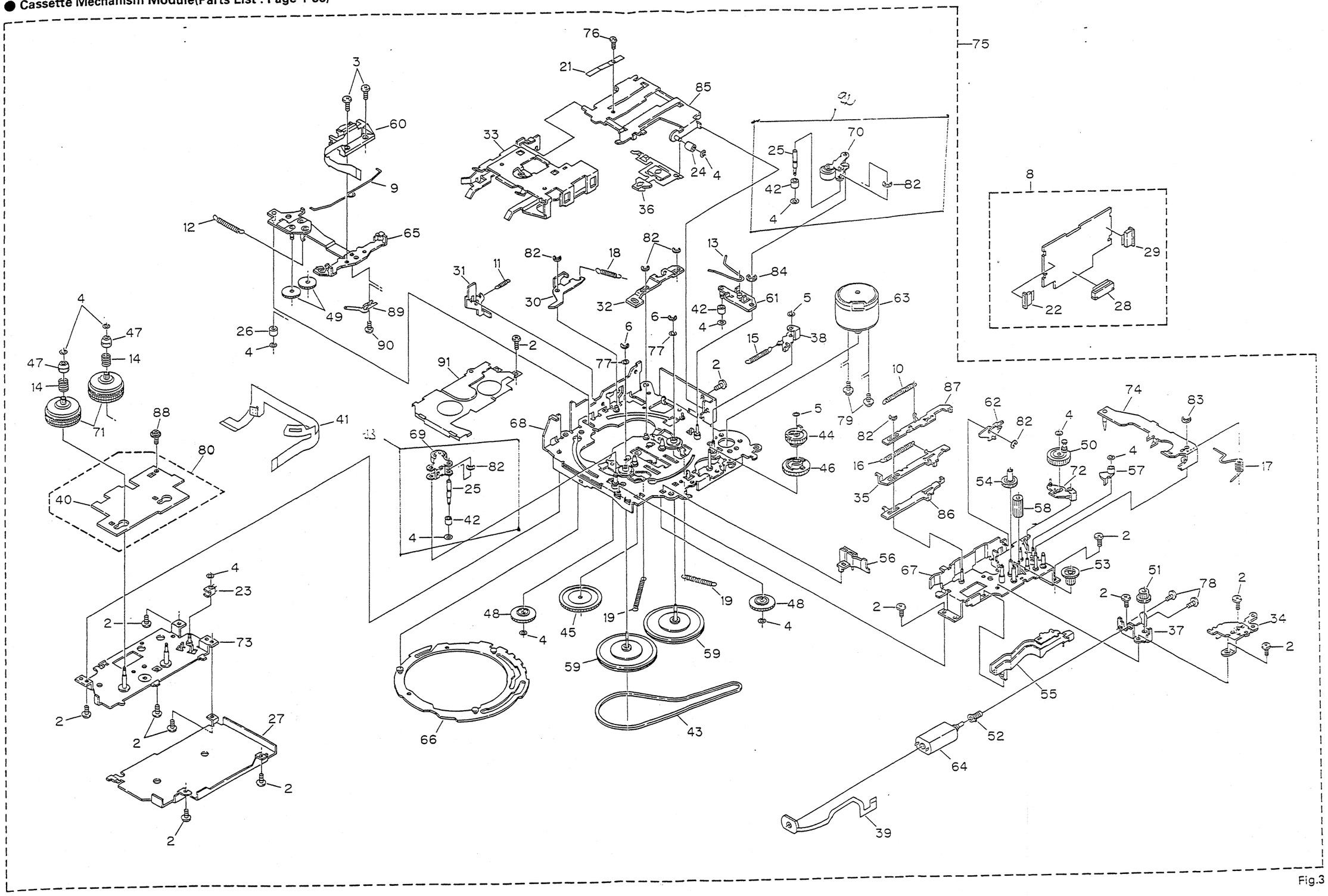



Fig.3

## 2. BLOCK DIAGRAM

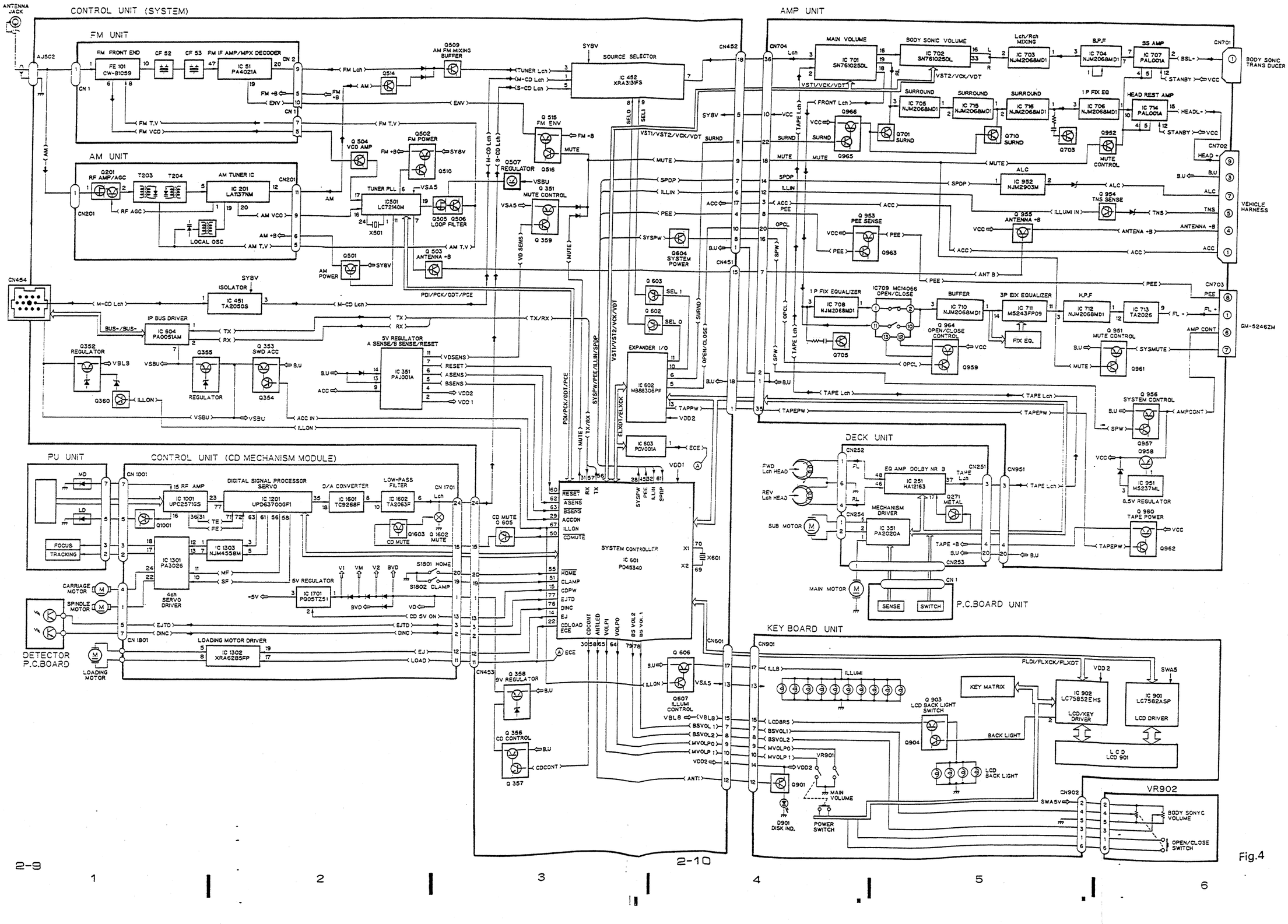
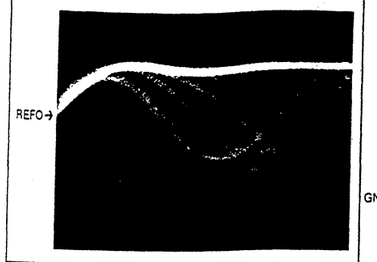



Fig.4

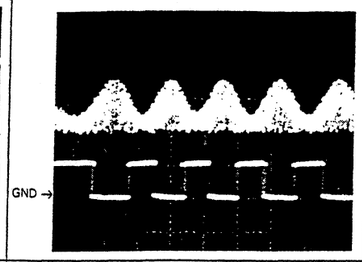
## ● Waveforms

Note: 1. The encircled numbers denote measuring pointes in the circuit diagram.
2. Reference voltage
REFO: 2.5V

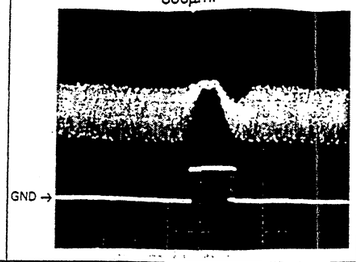
① RFO 0.5V/div. 0.2μs/div.
Normal mode: play



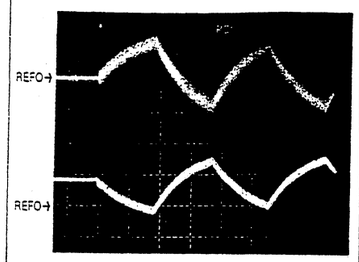

① CH1: RFO 1V/div. 0.5ms/div.
② CH2: MIRR 5V/div.
Test mode: Tracking open



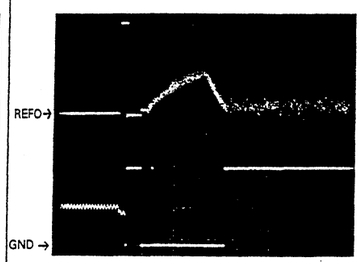

① CH1: RFO 1V/div. 0.5ms/div.
② CH2: MIRR 5V/div.
Normal mode: The defect part passes 800μm.



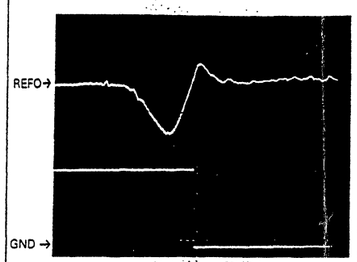

③ CH1: FIN 0.5V/div. 0.2s/div.
④ CH2: FO+ 2V/div.
Test mode: No disc, Focus close



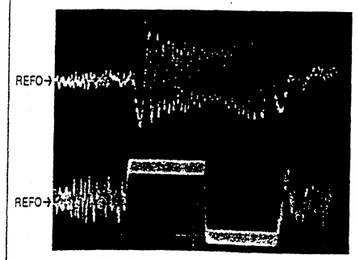

③ CH1: FIN 0.5V/div. 0.2s/div.
⑤ CH2: FOK 2V/div.
Normal mode: Focus close



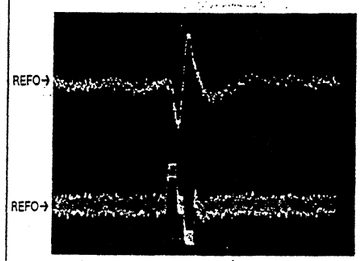

⑥ CH1: FEY 0.5V/div. 1ms/div.
⑦ CH2: XSO 2V/div.
Normal mode: Focus close



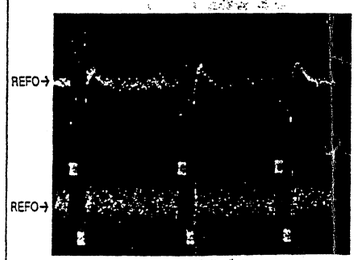

⑧ CH1: TEY 0.5V/div. 0.5ms/div.
⑨ CH2: TIN 0.5V/div.
Test mode: 32 track jump (FWD)



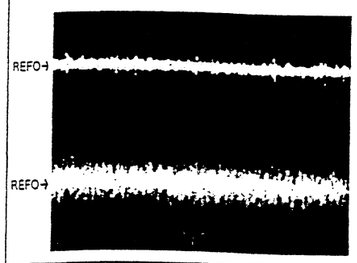

⑧ CH1: TEY 0.5V/div. 0.5ms/div.
⑨ CH2: TIN 0.5V/div.
Test mode: Single jump (FWD)



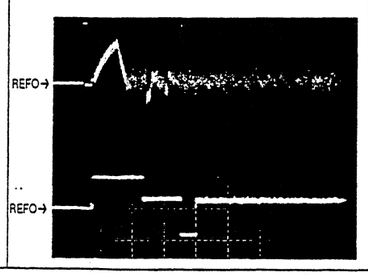

⑧ CH1: TEY 0.5V/div. 5ms/div.
⑨ CH2: TIN 0.5V/div.
Test mode: 100 track jump (FWD)



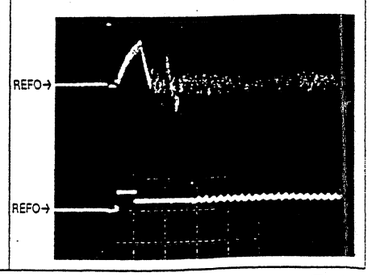

⑥ CH1: FEY 0.2V/div. 20ms/div.
③ CH2: FIN 0.5V/div.
Normal mode: Play




③ CH1: FIN 0.5V/div. 0.5s/div.
⑩ CH2: SIN 1V/div.
Normal mode: Focus close (12cm)

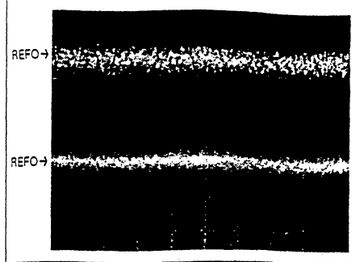



③ CH1: FIN 0.5V/div. 0.5s/div.
⑩ CH2: SIN 1V/div.
Normal mode: Focus close (8cm)

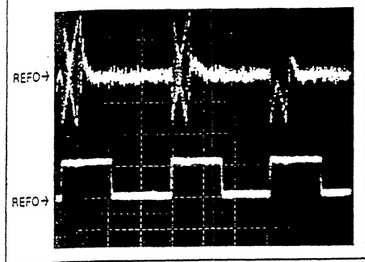




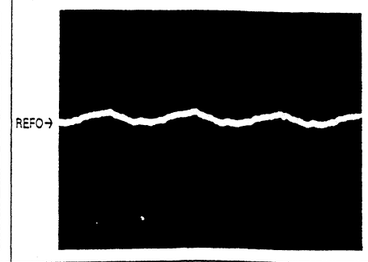

⑧ CH1: TEY 0.5V/div. 20ms/div.
⑨ CH2: TIN 0.5V/div.
Normal mode: Play



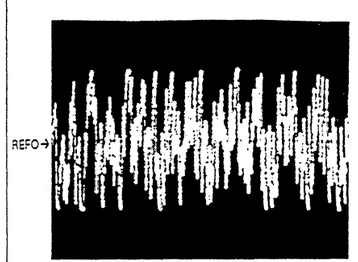

⑧ CH1: TEY 0.5V/div. 5ms/div.
㉓ CH2: CIN 0.5V/div.
Test mode: 100 track jump (FWD)



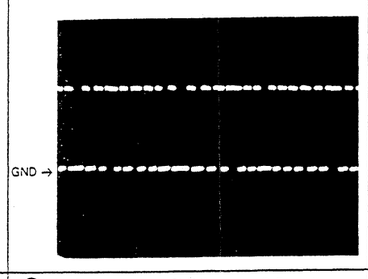

⑩ SIN 0.5V/div. 50ms/div.
Normal mode: 1Play (12cm disc)



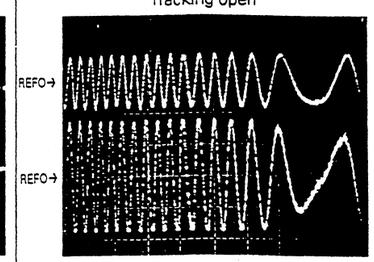

⑩ SIN 0.5V/div. 10ms/div.
Search (12cm disc)



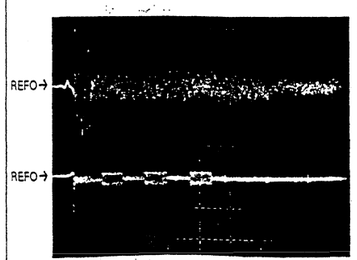

⑪ EFM 2V/div. 5μs/div.
Play



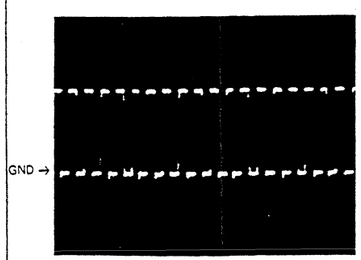

⑧ CH1: TEY 1V/div. 2ms/div.
⑫ CH2: TEC 1V/div.
Test mode: Focus closed
Tracking open



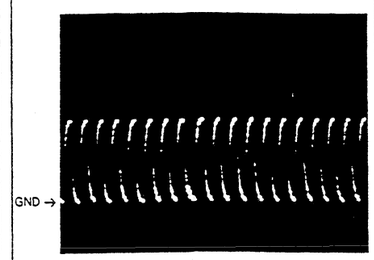

⑧ CH1: TEY 0.5V/div. 0.1s/div.
⑥ CH2: FEY 0.5V/div.
Normal mode: AGC after focus close



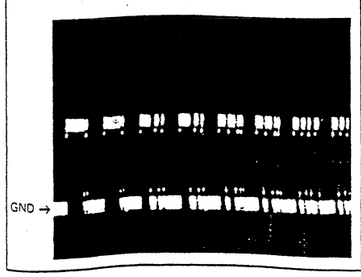

⑮ PLCK 2V/div. 0.5μs/div.
Play



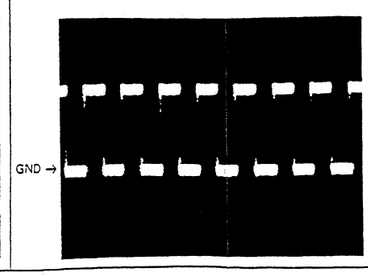

⑯ SCKO 2V/div. 1μs/div.
Play



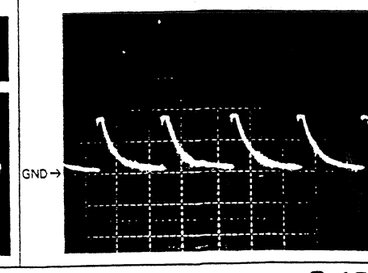

⑰ Dout 2V/div. 10μs/div.
Play

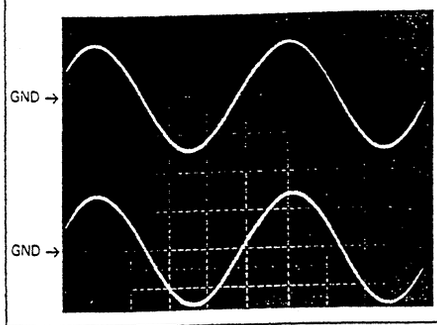
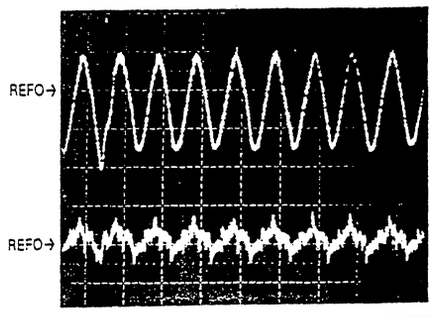
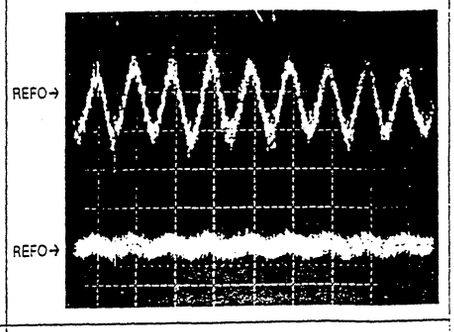



⑱ LRCK 2V/div. 20μs/div.
Play




⑲ VD 5V/div. 50ms/div.
Normal mode: No disc

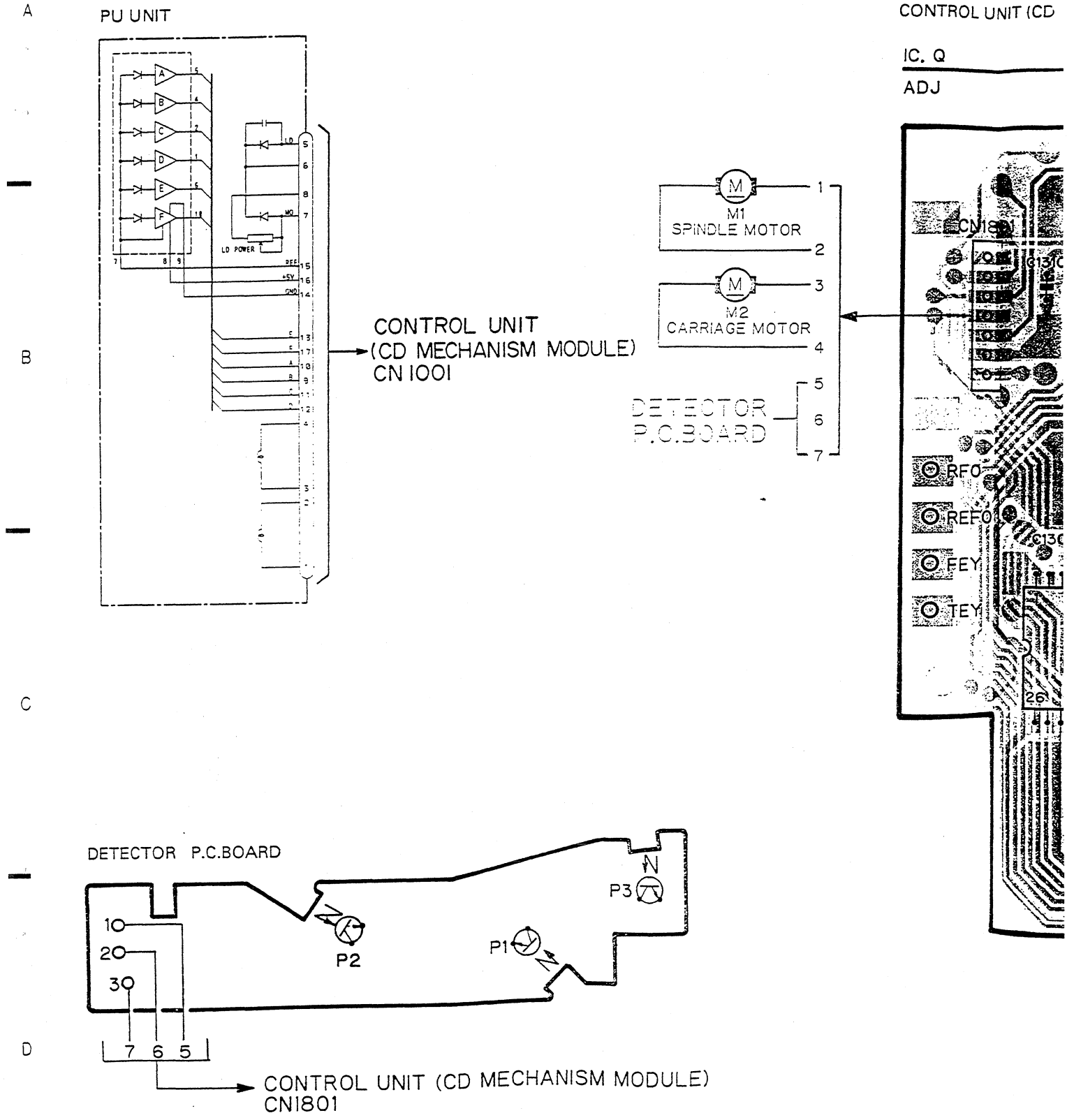


| | | |
|---|---|---|
| ㉒ CH1: R OUT 1V/div.<br>㉑ CH2: L OUT 1V/div. 0.2ms/div.<br>Normal mode: Play (1kHz 0dB)<br>  <br> | ⑥ CH1: FEY 1V/div.<br>③ CH2: FIN 1V/div. 1ms/div.<br>Normal mode: During AGC<br>  <br> | ⑧ CH1: TEY 0.2V/div.<br>⑨ CH2: TIN 0.5V/div. 1ms/div.<br>Normal mode: During AGC<br>  <br> |
| | | |
| | | |
| | | |

# 3. CIRCUIT DIAGRAM AND PATTERN

## 3.1 CD MECHANISM MODULE

● **Connection Diagram**



(CD MECHANISM MODULE)

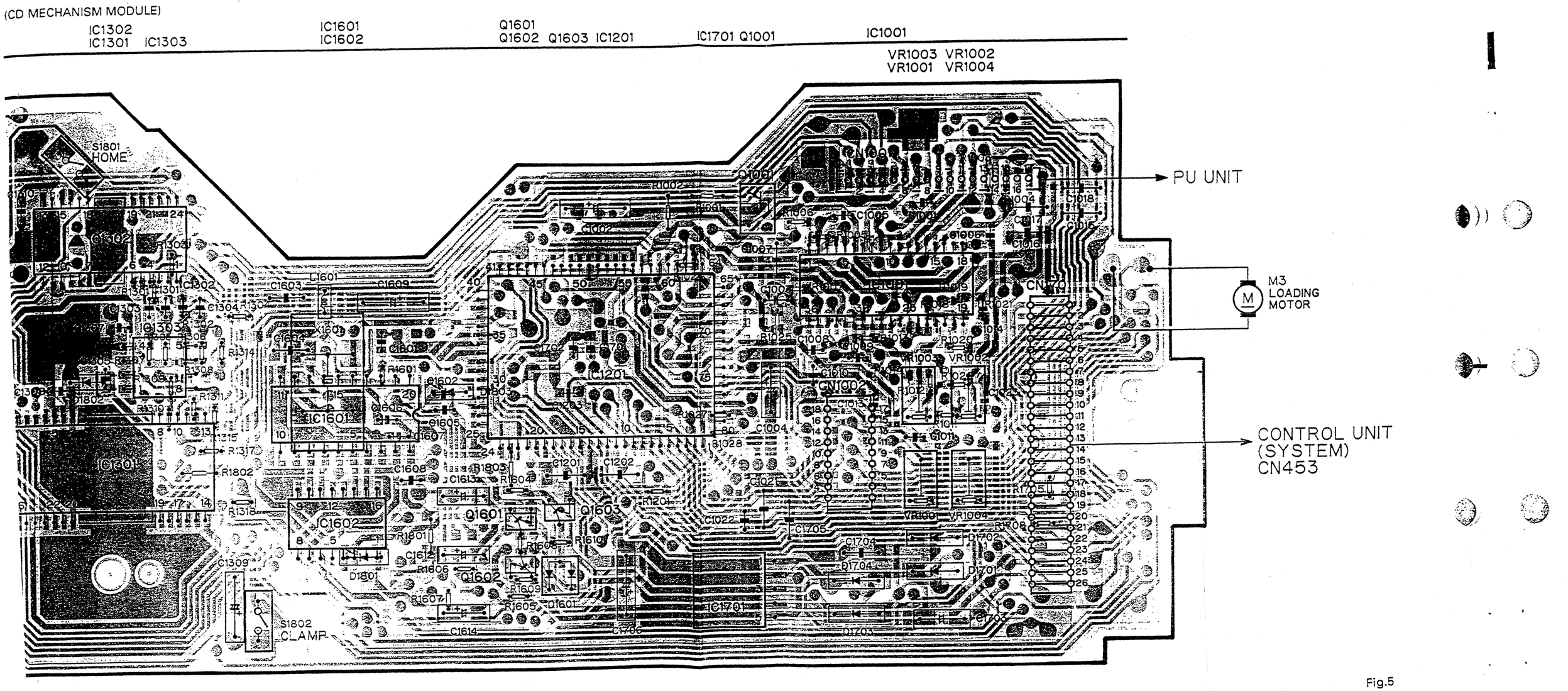
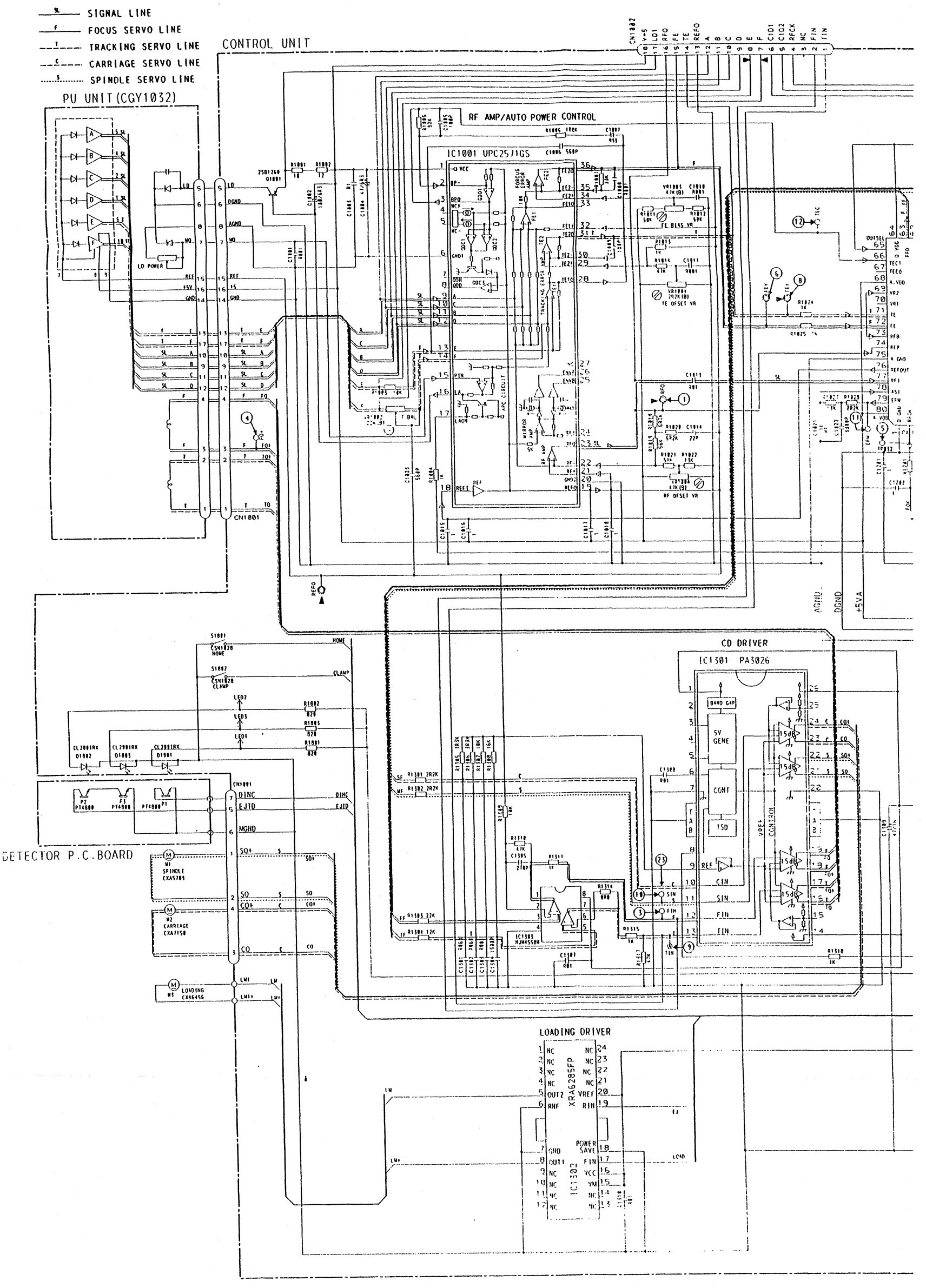



Fig.5

## ● Circuit Diagram



NOTE

Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.

Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as
2.2→2R2
0.022→R022

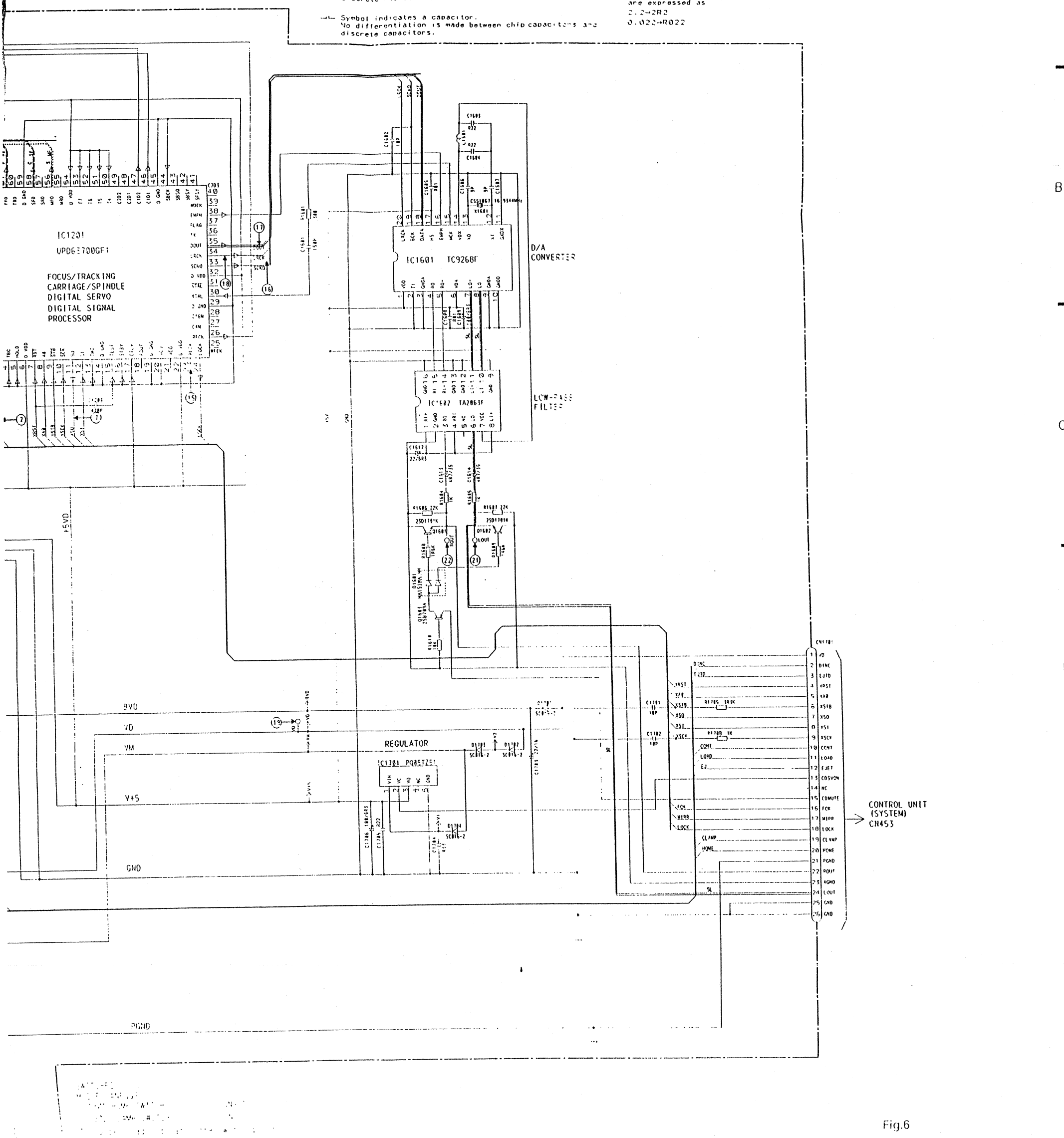
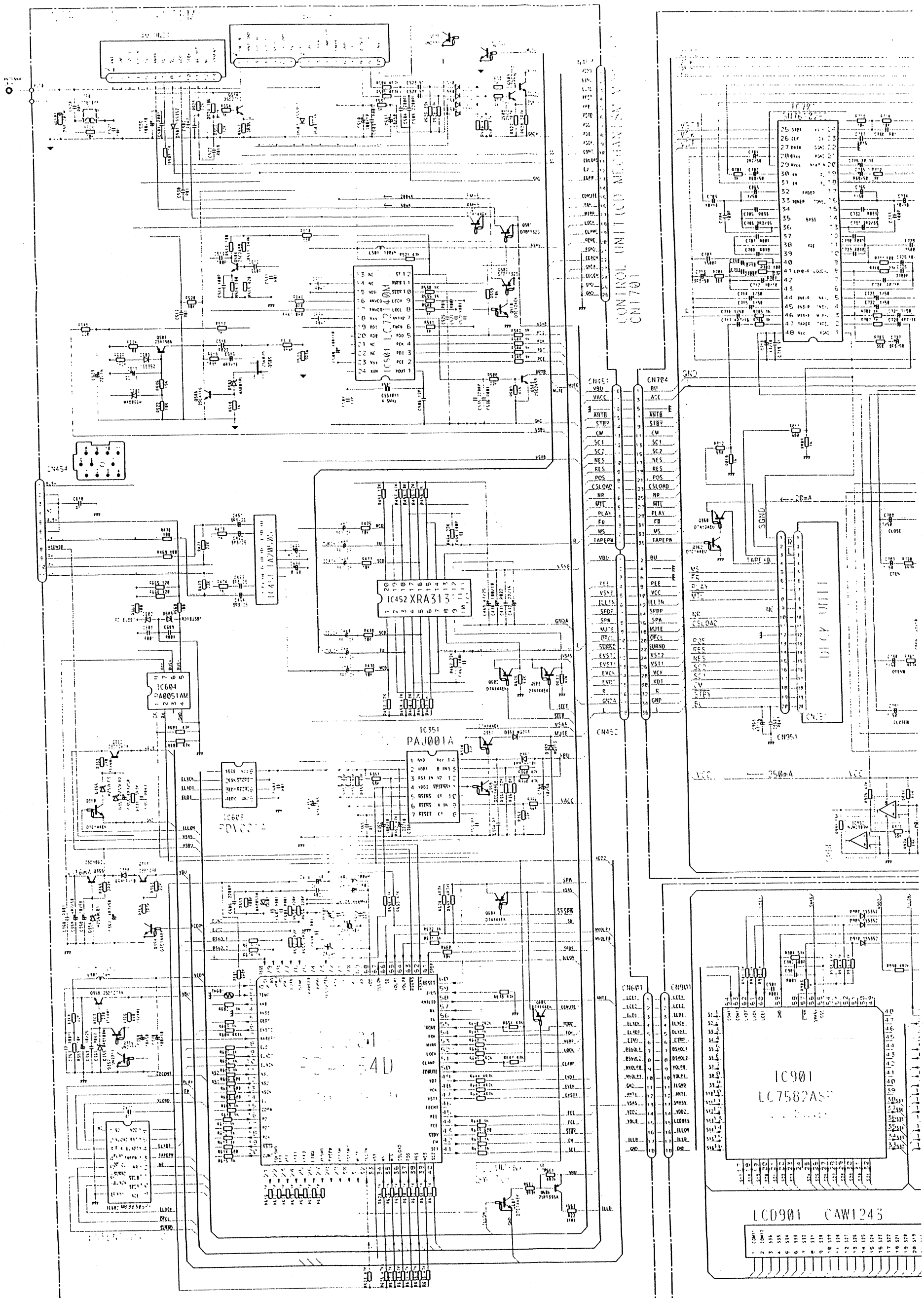



Fig.6

## 3.2 CONTROL UNIT(SYSTEM), AMP UNIT AND KEY BOARD UNIT

● Circuit Diagram




Sr. C50079 Sr. C49065 Sr. C49093 Sr. C49133
SI-C50167 Sr. C49064 Sr. C49158 Sr. C50004

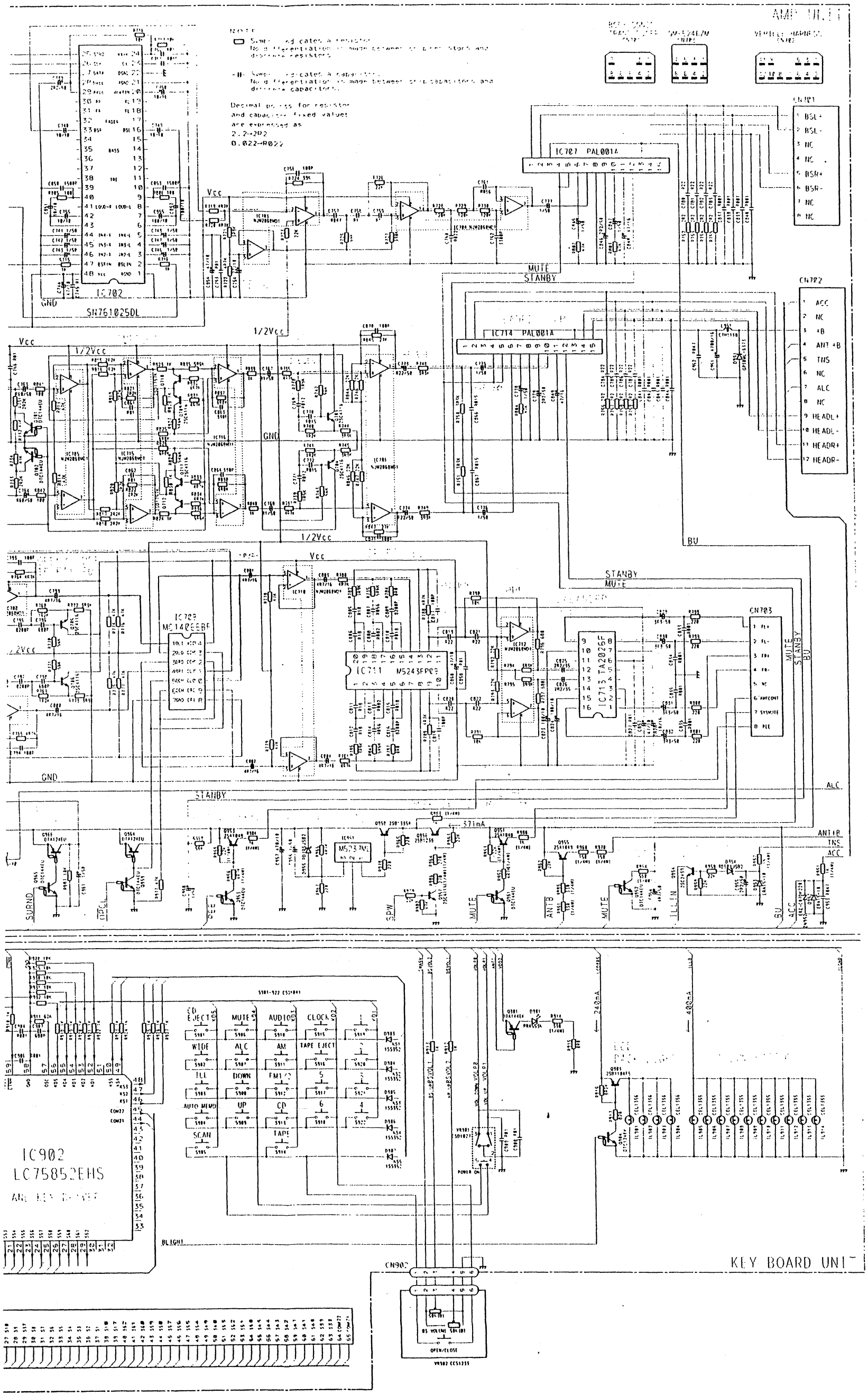

IC702
SN761025DL
IC707 PAL001A
IC714 PAL001A
CN701
CN702
CN703
IC709
MC14066BF
IC711 M5243FP
IC715 TA2026F
IC902
LC75852EHS
KEY BOARD UNIT
Vcc
1/2Vcc
GND
MUTE
STANBY
BU
ACC
ALC
ANTB
TNS
SVRND
SPW
BLIGHT

Fig.7

● **Connection Diagram**

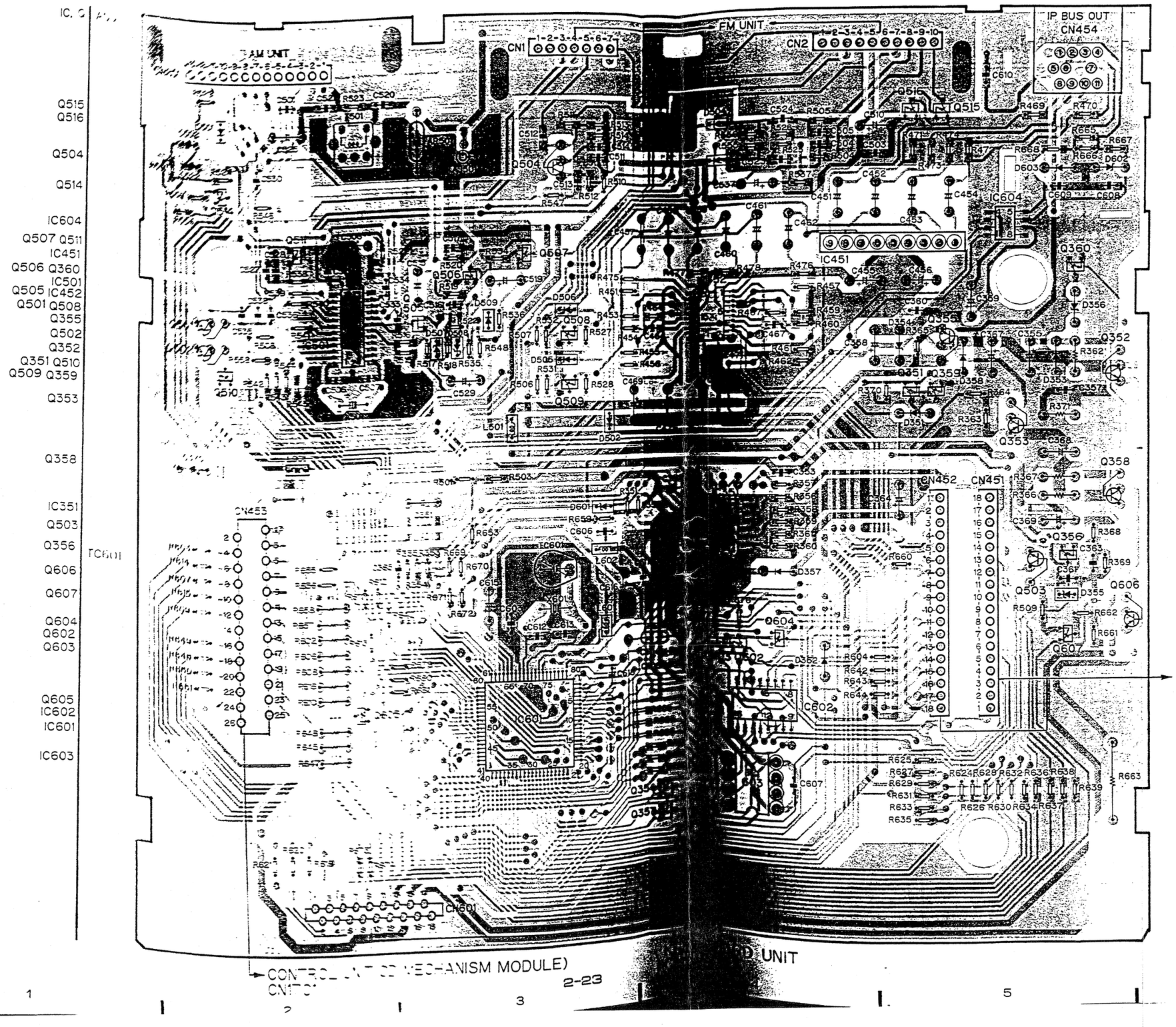



Fig.8

● **Connection Diagram(Amp Unit)**

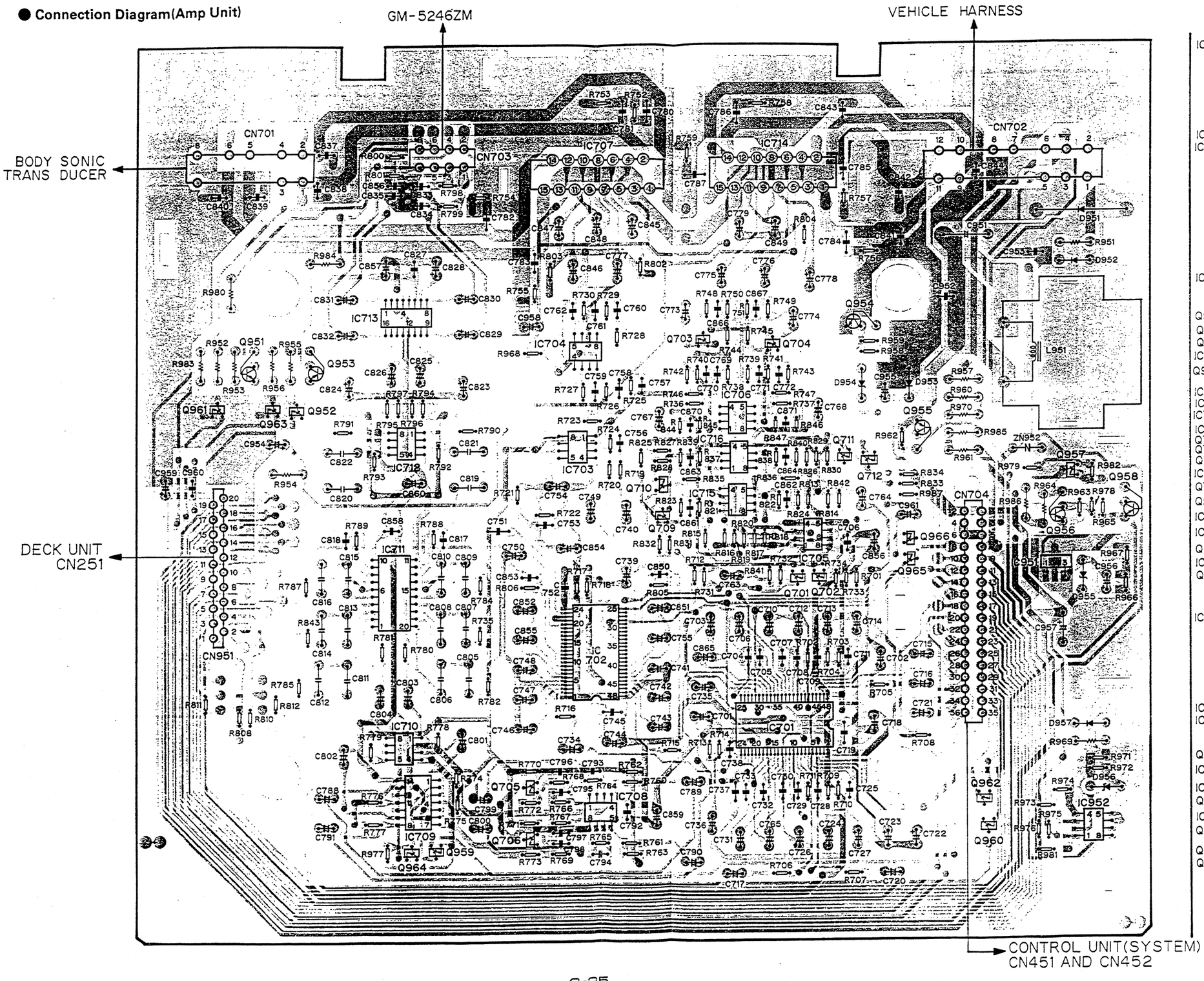
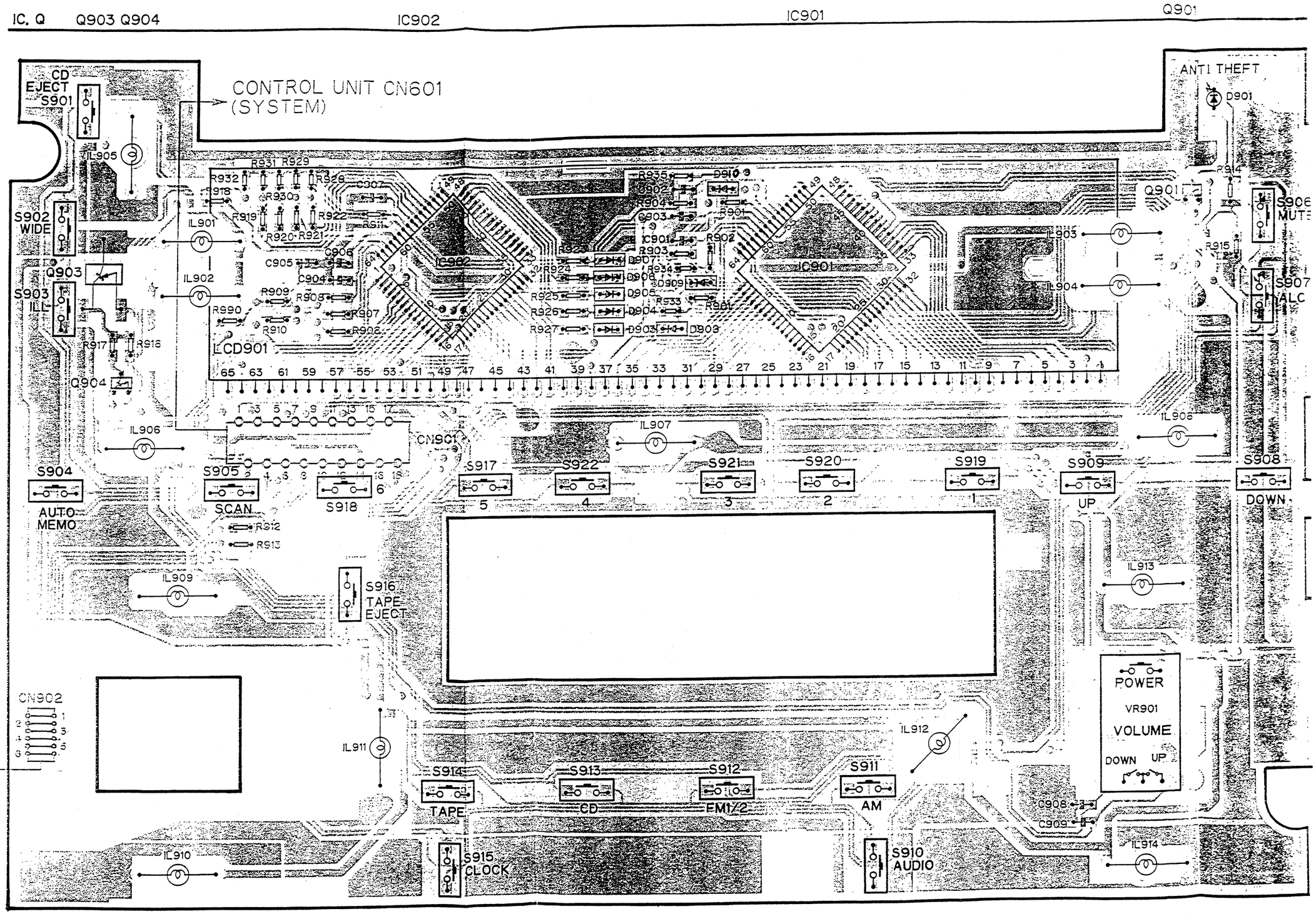



Fig.9

● Connection Diagram(Key Board Unit)



## 3.3 AM UNIT

● **Circuit Diagram**

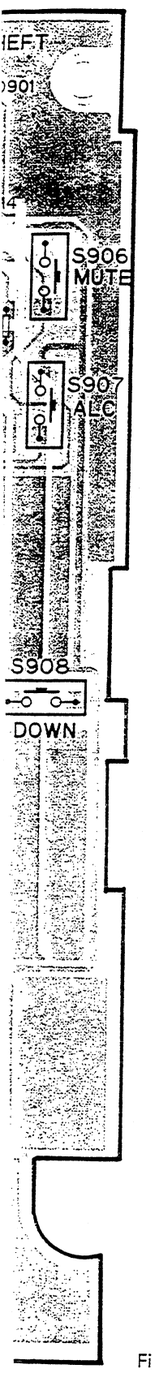



Fig.10

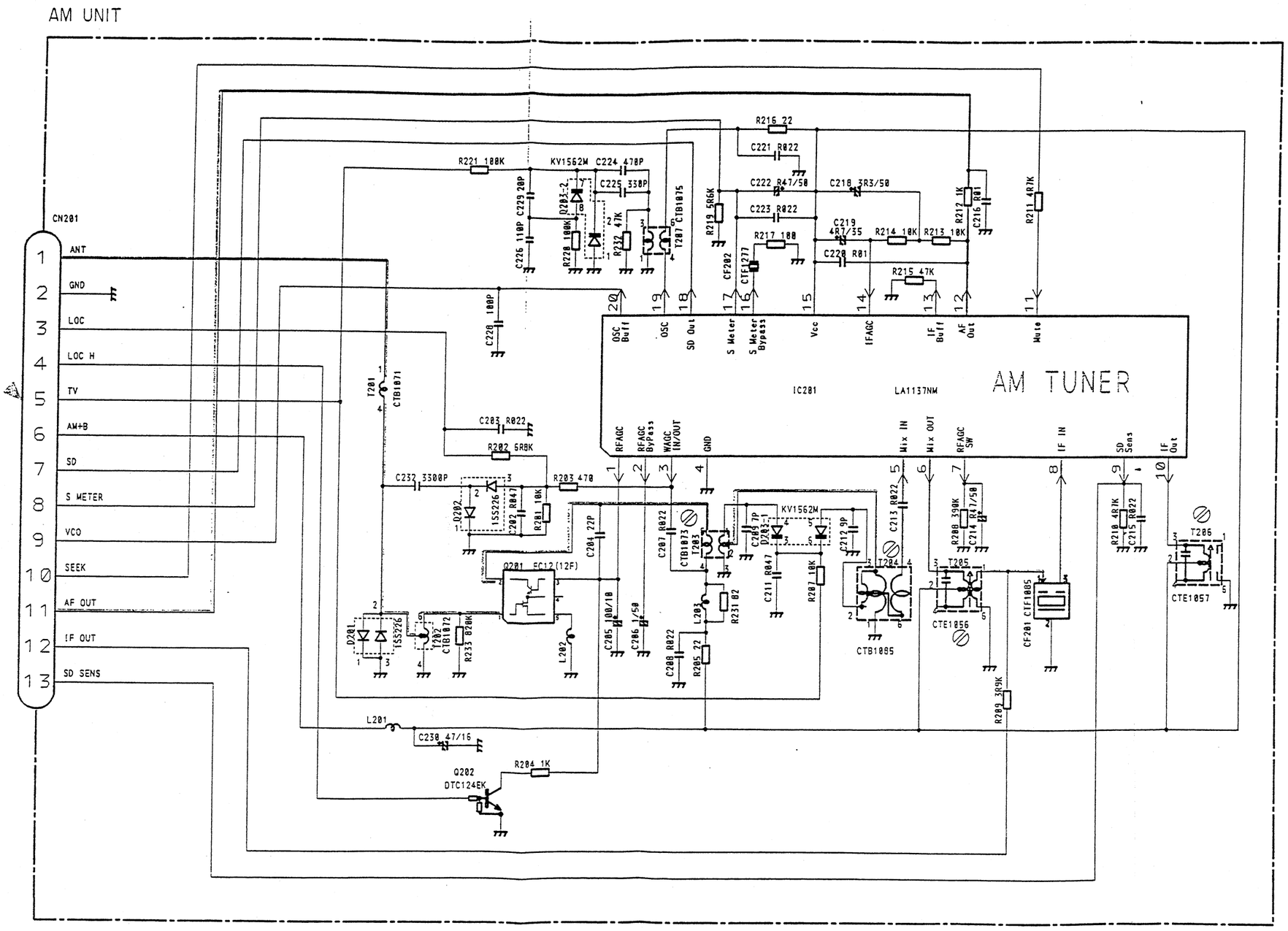
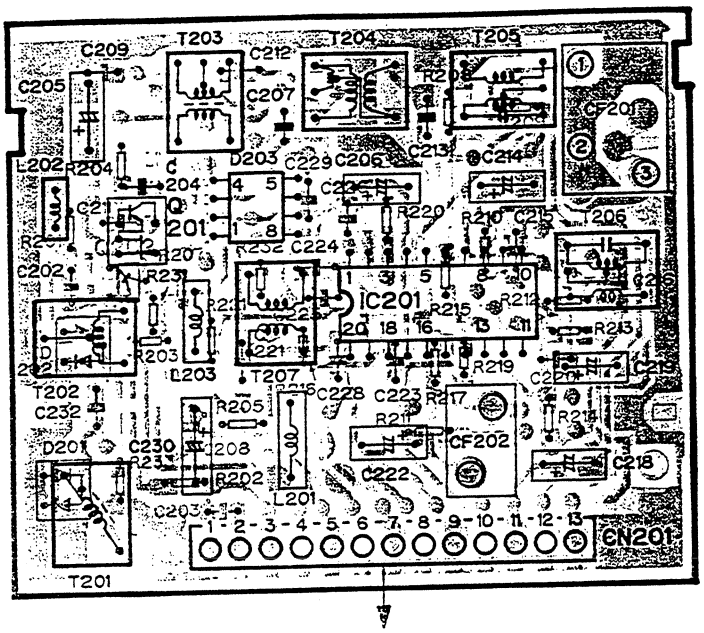


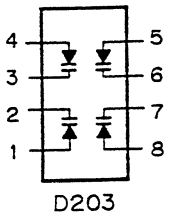

Fig.11

● **Connection Diagram**

Q202
IC. Q Q201 IC201

ADJ T203 T204 T205 T206




CONTROL UNIT (SYSTEM)

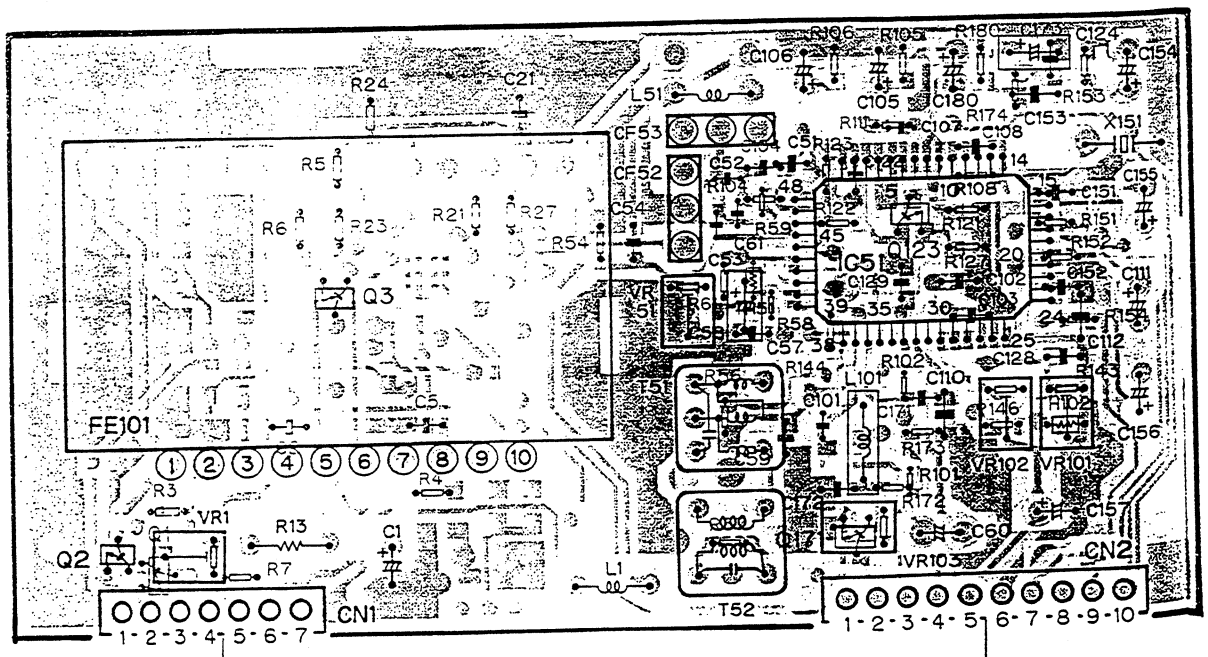
Fig.12

## 3.4 FM UNIT

● **Connection Diagram**

Q123
IC. Q Q2 Q1 Q3 Q171 IC51

ADJ VR1 VR51 T51 VR103 VR102 VR101
T52




CONTROL UNIT (SYSTEM)

CONTROL UNIT(SYSTEM)

Fi

● **Circuit Diagram**

FM UNIT

FM FRONT END

FE181 CWB1059

1 ANT 2 GND 3 LOC.L 4 LOC.H 5 VCC 6 VCO 7 VCO G 8 IV 9 VCL 10 IF OUT

IC51 PA4021A

CN1

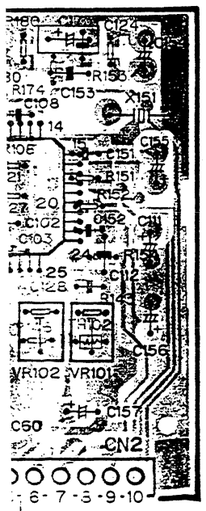
ANT 1 GND 2 LOCH1 3 LOCL1 4 VCO 5 GNDVCC 6 FMTV 7

CONTROL UNIT(SYSTEM)

CN2

SL 1 SD 2 SEEK 3 COMP OUT 4 +B 5 IF GND 6 ST 7 Rch 8 Lch 9 ENV 10

CONTROL UNIT(SYSTEM)



UNIT(SYSTEM)

Fig.13

Fig.14

## 3.5 CASSETTE MECHANISM MODULE

● **Circuit Diagram**

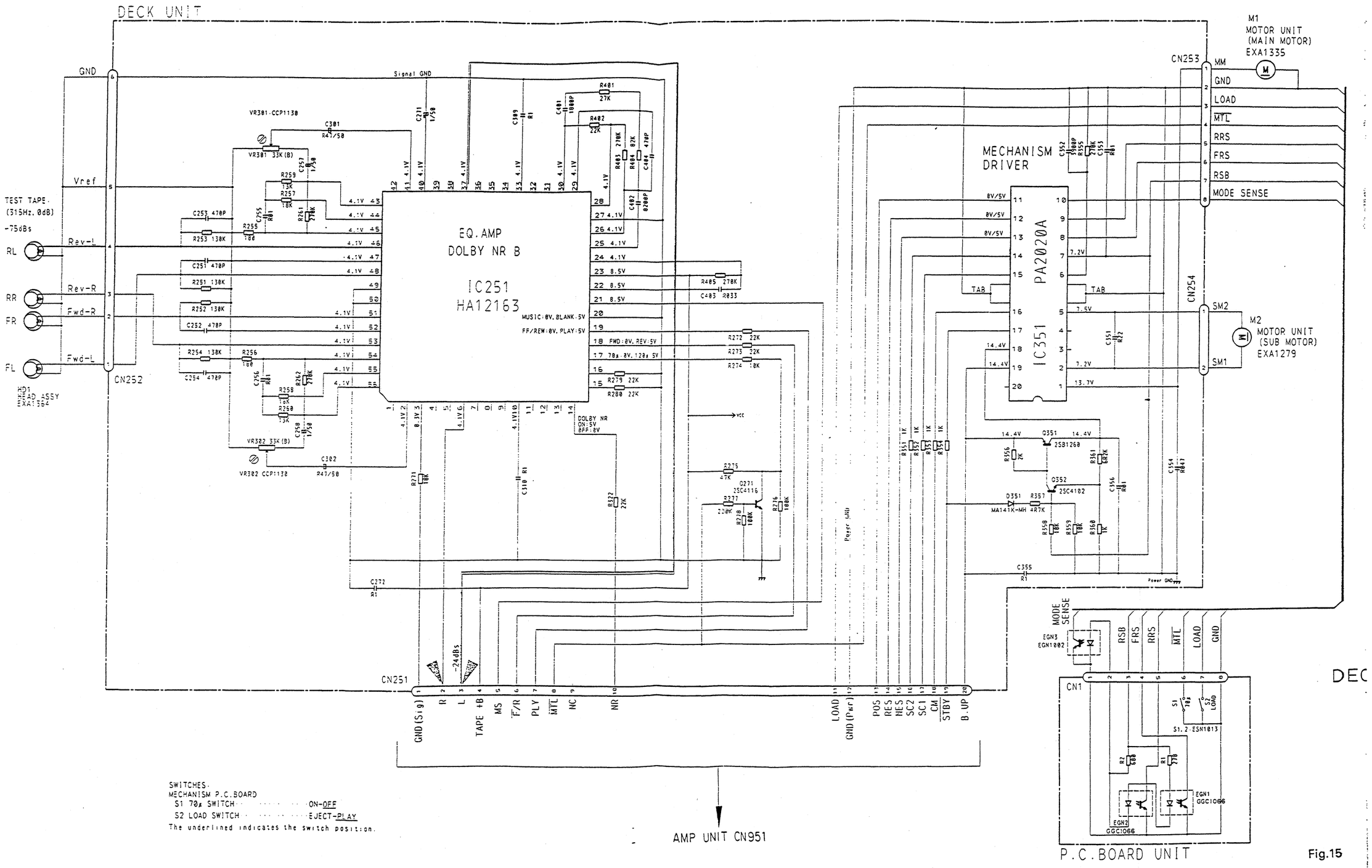
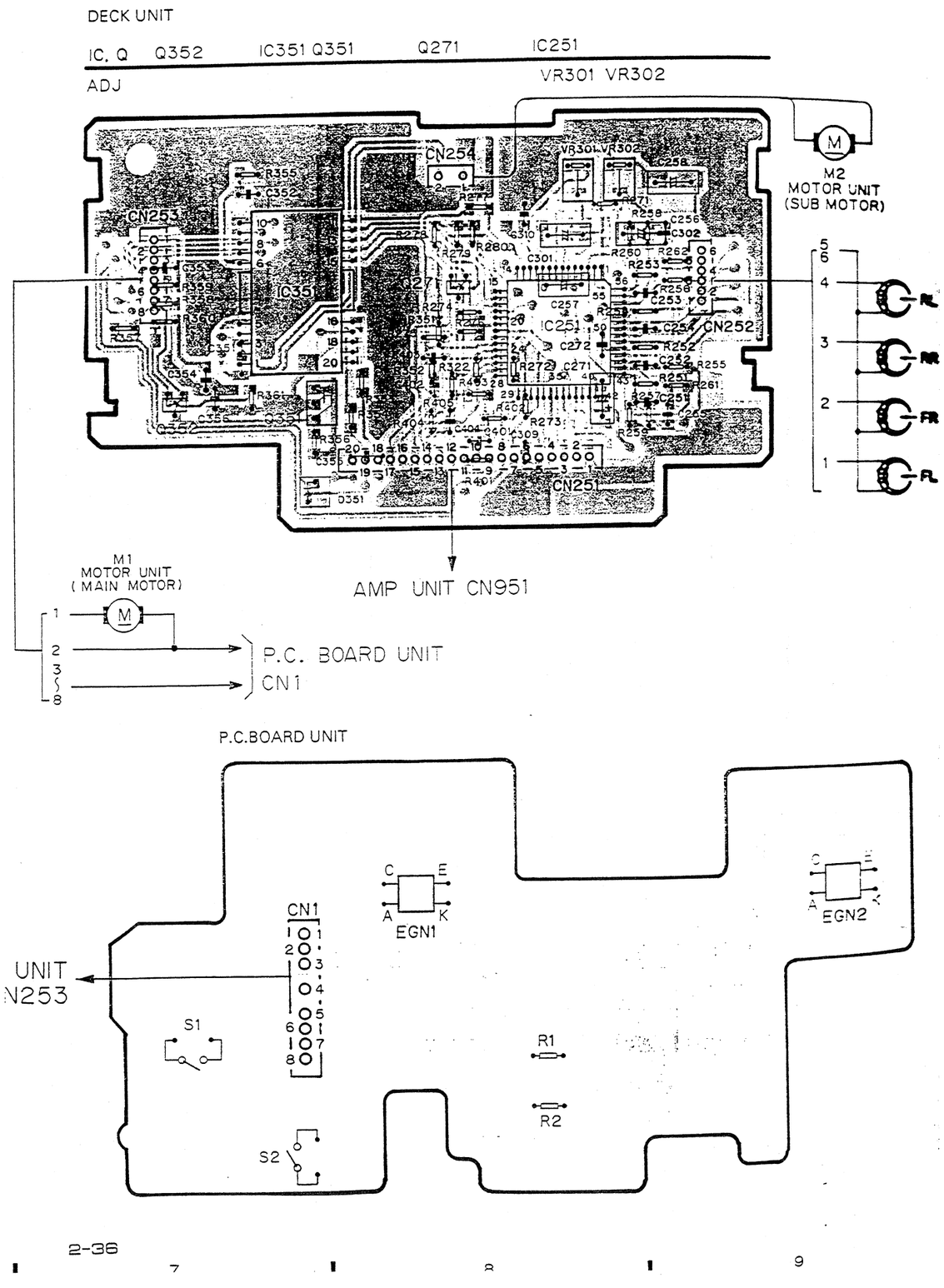



Fig.15

## ● Connection Diagram




## ● LCD(CAW1243)

SEGMENT

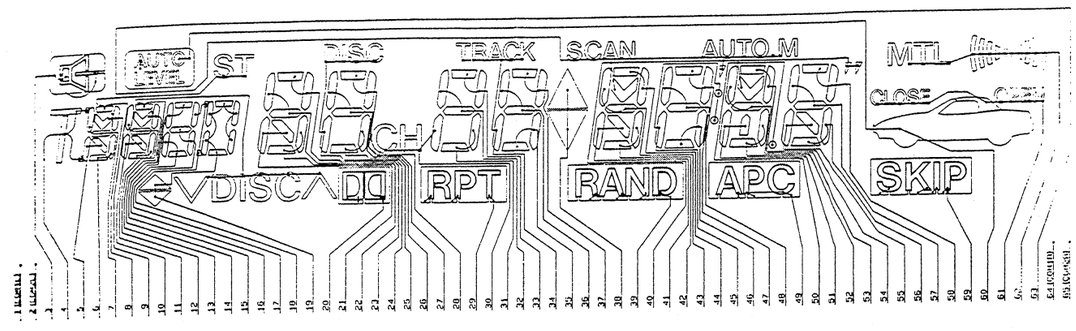
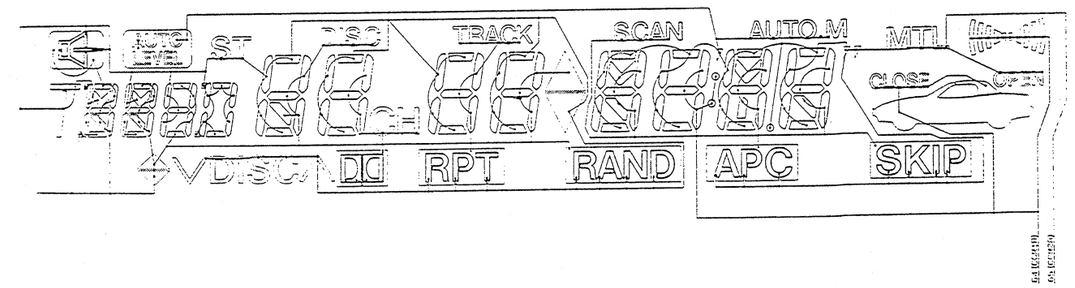



Fig.

COMMON




Fig

**COMP- und D.B.E-Umschaltung**

Sie können zwischen zwei COMP- und D.B.E.-Stufen umschalten.
Eine Stufenumschaltung für beide Funktionen gleichzeitig ist nicht möglich.

1. Drücken Sie Taste ⑪ des Blocks [10] und halten diese mindestens 2 Sekunden lang gedruckt, um den Umschaltmodus auszuwählen.
2. Durch jeden Druck auf Taste ⑪ des Blocks [10], ändert sich der Modus wie folgt: COMP OFF — COMP 1 — COMP 2 — COMP OFF — DBE 1 — DBE 2 — COMP OFF

- Sind sowohl COMP als auch D.B.E. eingeschaltet, ist der zweite Modus effektiver.

# Gebrauch der Uhr

## Identifikation der Teile

**Abb.1**

[9] Uhr
[11] ① Stundeneinstellung
② Minuteneinstellung
③ Einstellung des Zeitsignals

## Anzeigen der Zeit

Druch Drücken von Taste [9] wird das Display auf Anzeige der Zeit geschaltet. Wird die Taste [9] erneut betätigt, wird die Zeit-Anzeige deaktiviert.

- Die Uhr kann nur angezeigt werden, wenn das Hauptgerät in Betrieb ist.
- Wenn die Uhranzeige eingeschaltet ist, verschwindet sie bei Betätigung anderer Tasten. Etwa 25 Sekunden nach einer Tastenbetätigung erscheint die Uhranzeige wieder.

## Einstellen der Zeit

**Einstellen der Stunden**

Während die Taste [9] gedrückt gehalten wird, die Taste ① des Blocks [11] drücken, um die Stundeneinstellung der Uhr einzustellen. Bei jedem Drücken der Taste ① rückt die Stundeneinstellung um eine Stunde vor, hält man die Taste gedrückt, rückt die Einstellung mit hoher Geschwindigkeit vor.

**Einstellen der Minuten**

Während die Taste [9] gedrückt gehalten wird, die Taste ② des Blocks [11] drücken, um die Minuteneinstellung der Uhr einzustellen. Bei jedem Drücken der Taste ② rückt die Minuteneinstellung um eine Minute vor, hält man die Taste gedrückt, rückt die Einstellung mit hoher Geschwindigkeit vor.

- Nach Einstellung der Minute fängt die Uhr von 0 Sekunden an zu laufen, sobald die Taste [9] losgelassen wird.

**Einstellen der Uhr mit der "Sofort-Uhreinstellung"**

Während die Taste [9] gedrückt gehalten wird, die Taste ③ des Blocks [11] drücken. Die Zeit wird damit auf "00:00" eingestellt.

- Wenn sich die Minutenanzeige im Bereich von 00 bis 29 befindet, werden die Minuten abgeschnitten, und die Uhr startet.
  (Beispiel: Wenn die Zeit "10:18" ist, wird sie auf "10:00" eingestellt.)
- Wenn sich die Minutenanzeige im Bereich von 30 bis 59 befindet, werden die Minuten aufgerundet, und die Uhr startet.
  (Beispiel: Wenn die Zeit "10:36" ist, wird sie auf "11:00" eingestellt.)

# Lernfunktion

## Identifikation der Teile

**Abb.1**
[5] Lernmodus

**Abb.2**
[13] Lernfunktion

Die Funktion einer der Tasten dieses Geräts kann unter der Taste [13] der Fernbedienung gespeichert werden.

1. 2 Sekunden oder länger die Taste [5] drücken, um in den Lernmodus zu schalten. ("LEARN" erscheint auf dem Display.)
   - Nach 3 Sekunden wird der Lernmodus aufgehoben.
2. Die Taste dieses Geräts drücken, deren Funktion in der Fernbedienung gespeichert werden soll.
   - Die Funktion der Taste [2] kann nicht in der Fernbedienung gespeichert werden.

# Dämpfung des Autotelefons

Wenn ein Anruf am Mobiltelefon gemacht oder empfangen wird, wird automatisch die Mobiltelefon Dämpfung aktiviert, um die Lautstärke zu senken. Wenn der Hörer aufgelegt wird, wird auf die vorherige Lautstärke zurückgestellt.

- Es wird kein Ton erzeugt.
- Die Anzeige "CALL" erscheint im Display.
- Andere Klangeinstellungen als Lautstärke sind nicht möglich.